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# A Plan for Implementing Program Management in an Information Technology Organization

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Submitted to the Program of Organizational Dynamics in the Graduate Division of the School of Arts and Sciences in Partial Fulfillment of the Requirements of the Degree of Master of Science in Organizational Dynamics at the University of Pennsylvania

Advisor: Richard Heaslip

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# A Plan for Implementing Program Management in an Information Technology Organization

## **Abstract**

Program management is a methodology that can be used by an organization to facilitate the delivery of strategic outcomes through development of capabilities that enable an organization to obtain expected benefits. It is best suited to be implemented across an entire organization but can be adapted for use in individual parts of an organization. This thesis defines what constitutes program management, identifies the prerequisites for enabling a successful program management environment, describes the program lifecycle and associated activities and proposes a plan for program management implementation in an Information Technology organization in a Fortune 500 electric and gas provider in the northeastern United States.

I argue that there are three major areas that should be addressed for an organization to facilitate the successful implementation of program management: 1) development of an understanding and consensus across the organization of what constitutes a “program” and what “program management” entails; and how program management is related to but different from project and portfolio management; 2) how program management can be used to achieve strategic outcomes; and 3) the management infrastructure and resources that are needed to effectively implement program management.

## **Keywords**

Program Management, Information Technology

## **Comments**

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Advisor: Richard Heaslip

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INFORMATION TECHNOLOGY ORGANIZATION

By

Joseph A. Smith

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in the Graduate Division of the School of Arts and Sciences  
in Partial Fulfillment of the Requirements of the Degree of  
Master of Science in Organizational Dynamics at the  
University of Pennsylvania

Philadelphia, Pennsylvania

2013

A PLAN FOR IMPLEMENTING PROGRAM MANAGEMENT IN AN  
INFORMATION TECHNOLOGY ORGANIZATION

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## ABSTRACT

Program management is a methodology that can be used by an organization to facilitate the delivery of strategic outcomes through development of capabilities that enable an organization to obtain expected benefits. It is best suited to be implemented across an entire organization but can be adapted for use in individual parts of an organization. This thesis defines what constitutes program management, identifies the prerequisites for enabling a successful program management environment, describes the program lifecycle and associated activities and proposes a plan for program management implementation in an Information Technology organization in a Fortune 500 electric and gas provider in the northeastern United States.

I argue that there are three major areas that should be addressed for an organization to facilitate the successful implementation of program management: 1) development of an understanding and consensus across the organization of what constitutes a “program” and what “program management” entails; and how program management is related to but different from project and portfolio management; 2) how program management can be used to achieve strategic outcomes; and 3) the management infrastructure and resources that are needed to effectively implement program management.

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# CHAPTER 1

## INTRODUCTION AND BACKGROUND

### Interest in Program Management

My interest in program management was a progression that began when, in 2005, I wanted to make a career transition from a corporate support and services position in environmental, health and safety (EH&S) auditing to a position that would directly contribute to business growth. Before discovering program management, I first became interested in project management because it is through investments in projects that organizations create new or enhance existing products and services that enable organic business growth. In addition, there were several project management skills (project initiation and planning, stakeholder management, risk management, etc.) that were applicable to EH&S auditing and, with further development, could be transferable to a project manager position. In order to enable a career transition I would need the appropriate training and the opportunity to apply my new skills.

It was during part of my project management training that I developed an interest in program management. In 2007 two co-workers and future classmates from a different department, Information Technology (IT), Mark Barnebei and Bob Corso, introduced me to the “Projects, Portfolios and Programs (P3)” concentration in the Organizational Dynamics graduate program at the University of Pennsylvania. As a student in the P3 concentration at Penn, I gained an appreciation of the relationship between the tactical nature of projects (delivery of specific outputs), the strategic nature of portfolio management (project selection and resourcing) and how program management is utilized

to group and adapt projects in order to deliver benefits that enable achievement of an organization's desired strategic outcomes.

### Capstone Topics - Program Management in an IT Organization

In late 2010, at the time when I was nearing completion my graduate coursework and seeking a meaningful topic for my capstone project/thesis, my friend, classmate and co-worker, Neil Noordyk informed me that his management had approached him about developing and implementing program management in the IT Department. Neil also offered to me an opportunity to participate in this process. We determined that our capstone projects would be a two-part series. Neil's "Part One" capstone project would assess the "as is" state of program management in our employer's Information Technology Department. The objectives of Neil's capstone project were to identify and evaluate any elements of program management that already existed in IT and gaps between the current "as is" state and the desired future (program management) state. My "Part Two" capstone project utilizes the information obtained in Neil Noordyk's paper to develop a plan for implementation of program management in the IT organization.

Neil Noordyk's capstone project, "Implementing Program Management: Analyzing the Current "As-Is" State in Information Technology" was completed in the spring of 2012. In his 2012 paper, Noordyk<sup>29</sup> assessed the existing UTIL IT program management model against the seven key principals of program management as detailed in the UK Office of Government Commerce (OGC), *Managing Successful Programmes* (MSP) standard. A summary of Noordyk's observations is detailed below in Table 1:



Table 1. Summary of Noordyk's UTIL IT Program Management Assessment

<b>OGC MSP PROGRAM MANAGEMENT PRINCIPAL</b>	<b>STATUS OF UTIL IT ADOPTION/IMPLEMENTATION</b>
Remaining aligned with Corporate Strategy	There is no deliberate effort to create programs to deliver strategic goals. Programs are not envisioned or created, but rather formed based on commonality among existing projects.
Leading Change	Individual UTIL business unit senior leaders are change champions who provide direction and vision for their respective areas. Increasing IT participation in discussions with individual business unit leaders when business unit strategic goals are in the development stage would better enable IT to structure IT projects and programs to support the realization of their business unit client's desired future state.
Envisioning, and communicating a better future	The UTIL organizational vision, mission and strategies for the future have been communicated across the organization as a whole. While IT is very effective in meeting short-term operational needs, it is not apparent how IT programs are aligned with the future state that is envisioned by UTIL leaders.
Focusing on the benefits and threats	IT is not consistently involved in this area. There is significant variation of IT involvement across different business unit clients.
Adding Value	Development of program-specific criteria, for assessing the value of existing IT projects and programs, would better enable IT to deliver benefits to clients that support business unit strategic objectives. Such criteria should be developed and applied collaboratively by IT and business unit leaders and utilized as the basis for decisions to continue (with or without adaptation) or discontinue IT projects and programs.
Designing and delivering a coherent capability	There are no formal reviews of IT programs and projects once they are turned over to clients to verify that they are delivering the intended benefits.
Learning from experience	There is no formal process or method to share and learn from lessons experienced during execution of IT projects and programs.

This capstone is intended to provide guidance to my employer, a large electricity generator and electricity and natural gas delivery company that is hereafter referred to as "UTIL," to transition its IT organization from a project-driven environment that incentivizes tactical decision making at the middle-management level to a program-based

business entity that enables Program Leaders in middle management positions to adapt programs and projects to changing internal and external business conditions and make strategic decisions that align the interests of middle management and project teams with the strategic interests of the containing UTIL organization.

### Differences between Project-Driven and Program-Driven Environments

In a project-driven environment, decision-making criteria are inherently tactical. This inherent tactical approach can have the unintended consequence of producing outcomes that can adversely affect the ability of projects to support achievement of a sponsoring organization's desired strategic outcomes. Projects are intended to produce tactical outputs and most often employ a rigid process throughout the project lifecycle for identifying project outputs and delivering such outputs within the triple constraint, i.e., schedule, cost and scope. In this environment where there is a focus on meeting the triple constraint, there may not be recognition of the need, both at the project management and executive level, to adapt projects so that their outputs and/or the timing of the delivery of such outputs accommodate internal and external business factors that can affect attainment of the sponsoring organization's desired strategic outcomes. This insensitivity to changes in an organization's strategic needs can therefore result in the delivery of outputs at the conclusion of a project that are not necessarily aligned with an organization's current strategic needs and desired outcomes. In the event that it is recognized that a project's intended outputs are not aligned with an evolving strategic need, the authority to adapt a project normally resides within high-level governance committees in the executive ranks. Considering that executives are not necessarily intimately involved in the day-to-day aspects of most projects, they may not be

immediately aware of all necessary and time-sensitive project adaptations that are needed. In addition, due to their broad scope of responsibility, they may not be easily accessible to the project and middle managers that have intimate knowledge of time-sensitive project threats and opportunities that could affect achievement of the sponsoring organizations strategic objectives.

The above discussion of the tactical nature of a purely project-driven environment demonstrates that there is a need and a value in being able to respond adaptively over the life of a project. Such project adaptations are necessary to ensure delivery of project outputs and appropriate benefits that will enable the sponsoring organization to realize its desired strategic outcomes. However, even when the need for adaptation is recognized, a project-based system that requires authorization by executive governance committees that meet infrequently can be an insurmountable hurdle to effective and timely adaptations. Conversely, in a program-based system, there is recognition that an organization's strategic needs are constantly evolving and that consistent delivery of relevant benefits requires both frequent evaluation of intended project outputs and the ability to rapidly adapt such outputs over the lifecycle of a project to address changes in strategic needs. There is also recognition in a program-based system that an empowered program leader will monitor the sponsoring organization's evolving strategic needs and assume responsibility for adapting projects to meet such strategic needs.

### Presentation of Information in Capstone

The information in this capstone paper is arranged to provide an overview of the program management discipline, followed by a plan for implementing program management in the at UTIL IT Department. In Chapter 2, the terms “program”, “project” and “portfolio” will be analyzed. This analysis will highlight how each is different and how they relate to each other. Additionally, an examination of “program” and “program management” definitions that have been published in peer-reviewed journals will be presented and new definitions of both terms will be proposed. Chapter 3 contains a discussion regarding why program management is necessary, how it delivers benefits to an organization, pre-requisites for successful program management implementation and pitfalls that may derail successful implementation. In Chapter 4 an organizational design that suits a program management environment in the UTIL IT organization will be proposed and the key program management roles and responsibilities in the proposed UTIL IT organization will be discussed. Chapter 5 will detail the program management lifecycle steps and contain a discussion of how each step would be carried out in the proposed UTIL IT organization. The information contained in Chapter 6 will provide details regarding the on-going program management activities that take place across multiple stages of the program management lifecycle. In Chapter 7, there will be a discussion of program governance and its key functions over the life of a program. Chapter 8 summarizes conclusions regarding the decision-making process for choosing whether to implement program management and proposes a high-level plan for implementing program management in the UTIL IT organization. A detailed plan that is based upon the information presented in Chapter 8 is presented in Appendix A.

## CHAPTER 2

### DIFFERENTIATION BETWEEN PROGRAMS, PORTFOLIOS AND PROJECTS AND LITERATURE REVIEW OF PROGRAM MANAGEMENT

#### Program Management, Project Management and Portfolio Management

The purpose of program management is to manage and deliver long-term strategic outcomes. The prerequisites for a program are a strategic vision and a set of high-level goals. Program management is the development, management and adaptation of groups of implementable actions (or projects) that are designed to achieve the high-level goals, realize a strategic vision and deliver benefits that would not otherwise be realized by managing the implementable actions (or projects) individually. While programs create benefits through better organization of projects, they do not in themselves deliver individual project objectives;<sup>25</sup> Rather, programs provide a means to bridge the gap between project delivery and organizational strategy<sup>25</sup> by marshalling projects and resources in a manner that would not be taken into consideration by project managers working separately<sup>10, 40, 56</sup> and who are focused exclusively on individual project objectives. Because programs have shared resources at their disposal, this enables the ability to prioritize and adjudicate between competing projects (within a program). When a program framework for several projects is created, this can result in cost and efficiency gains and increase the possibility of creating “package-deals” and opportunities for sharing and reducing risks.

The program management function normally takes place at the middle management level of an organization, where program [leaders] are the intermediaries

between higher management and operations personnel, implementing an organization's strategy. Program [leaders] do this by setting the context for projects (relative importance or priority of the project with respect to its effect on achievement of the containing organizations strategic objectives) and the framework and boundaries for project managers to operate.<sup>3, 40</sup>

Program management is a distinct function that is related to portfolio management and project management. In order to comprehend the context of program management and how it relates to portfolio and project management, the purposes of “portfolio management” and “project management” and how they are distinct from project management need to be understood. Portfolio management is used to *do the right projects* and project management methods are used to *do projects right*.<sup>3</sup>

Portfolio management is a strategic (normally executive-level) business investment analysis function that is used to select, fund and periodically evaluate projects. Cooper, Edgett and Kleinschmidt<sup>38</sup> characterize project portfolios as frameworks for management decisions that have been traditionally used for selection and resource assignments in research and development projects in order to maximize the value of a portfolio, achieve the right balance and mix of projects and portfolios and/or linking strategy with projects.

Project management is tactical in nature and delivers a defined and tangible output (such as constructing a building, delivering a report, etc.) within a specified scope, budget and schedule (also known as the “triple constraint”). Project management focuses on the definition, planning and execution of a specific objective. This focus can lead to a

general degree of insularity and project centrality<sup>40</sup> where the context of the project within the containing organization is often given little consideration.

The strengths of the project approach are its orientation to a defined scope of activities, its ability to define (as narrowly as possible) the problem and engage in the activities required to solve the problem. It has also been praised for its ability to protect a spatial plan in its implementation phase against unforeseen interferences from the environment. Through its use of a multidisciplinary team and its focus on a specific task over a fixed time frame, a project organization is free to adapt its content, processes and arrangements to specific requirements.<sup>19, 56</sup> At the same time, these advantages of project management are also its pitfalls.<sup>56</sup>

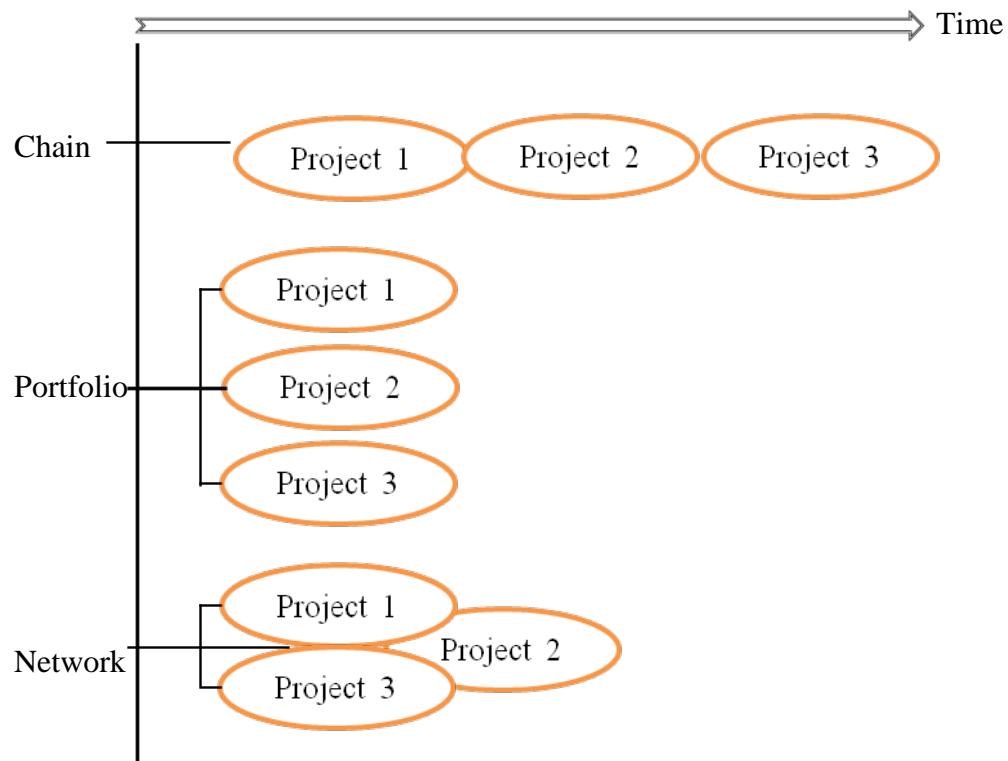
The clearly defined scope of a project and its relative isolation from its environment is not only an advantage but also one of its most significant weaknesses. It's clearly demarcated boundaries with the outside world are often rigidly defined and last for the entire duration of the project.<sup>8, 56</sup> New demands for quality, requests for a redefinition of the scope, resistance and other negative outside events that can affect the course, quality and results of the project, are often overlooked or seen as causes for cost overruns and delays. Pure project management approaches relate to a closed and mechanistic system perspective and a rational and orderly management orientation.<sup>18, 21, 47, 48, 56</sup> This means that specific project needs satisfy only the specific ambitions that are defined in advance by the principal project<sup>56</sup>, but that such fragmented individual project needs may not necessarily be sufficiently aligned to support the betterment of the containing organization as a whole.

Organizations that view programs as large projects tend to shoe-horn programs into project-level thinking, and so lose most of the benefits sought in setting up programs in the first place.<sup>38</sup> To paraphrase Maylor et al and Dornish, western projects typically focus on the internal dynamics of projects whereas programs address the relationships and movements between projects.<sup>7, 26</sup> While it has been widespread practice for projects to be closed out when a product or service has been handed over to a user, a program, at least in the emerging use of the term, cannot be considered complete until the benefits from the product or service have been realized.<sup>26</sup> Program management is viewed by some as the ‘management of multiple projects’, while by others as ‘the management of organizational change through projects that bring about change’.<sup>26, 57</sup> In order to more clearly differentiate projects and programs, a modified version of a clear and concise comparison of programs and projects is detailed in Table 2 and Figure 1. The information in Table 2, developed by Pellegrinelli<sup>39</sup>, details the difference between programs and projects. In Figure 1, Lycett et. al. have graphically represented the relationship between projects and programs as a chain of projects – one occurring after another, a portfolio of projects taking place at one point in time, or as a network of interlinked projects.<sup>25, 26</sup>



Table 2. Comparison of Programs and Projects<sup>39</sup>

<b>Program</b>	<b>Project</b>
An organizing framework	A process for delivering a specific output
May have an indefinite time horizon	Will have a fixed duration
Evolves in line with business needs	Has set objectives
May involve the management of multiple related deliveries	Involves the management of a single delivery
Focused on meeting strategic or extra-project objectives	Focused on delivery of an asset or change
Program manager facilitates the interaction of numerous managers	Project manager has single point responsibility for project's success

Figure 1. Organization of Projects in Programs<sup>25, 26</sup>

In contrasting the ‘strategic management’ perspective with the ‘project-based’ perspective of program management, Pellegrinelli et. al. have identified four key differences. They are:

- Programs are emergent phenomena and program leaders need to be more conscious of, and responsive to, external change and shifting strategic goals than indicated by a project-based perspective that promotes the definition and pursuit of fixed objectives and scope.
- Programs are conceived as frameworks or structures, and so atemporal or with indeterminate time horizons, rather than having linear life-cycles akin to projects.
- As a vehicle for enhancing corporate vitality, program management is concerned with the nurturing of individual and organization-wide capabilities as well as the efficient deployment of resources.
- Program management work is intimately bound up with and determined by, context rather than governed by a common set of transferable principles and processes.<sup>38</sup>

Therefore, the mechanistic application of program management would tend to support a tactical controlling agenda rather than the strategic empowering agenda for which program management is intended to facilitate. Organizations should be mindful to avoid implementing a rigid program management model or blueprint that would focus attention on what could be defined and therefore constrain the flexibility of a program to adapt to changing organizational requirements over the life of the program (which is often over a course of several years).<sup>38</sup>

### Literature Review of Program Management

While researching this paper, peer-reviewed program and program management reference materials were sought. After obtaining a list of applicable references, it is of interest to note that the overwhelming majority of available peer-reviewed program management literature is published in European journals. The relatively small number of

available United States-based references suggests that the implementation of and operating experience with program management is at a significantly more advanced stage in European organizations than in their American counterparts. Therefore, the level of awareness, understanding and acceptance of program management, as presented in this paper, is likely to be greater in Europe than in the United States. In order to better understand what constitutes “programs” and “program management” these terms need to be defined. The discussion that follows will detail definitions of “program” that appear in peer-reviewed journals, identify and analyze the common themes among these definitions and propose a new “program” definition. A similar discussion of “program management” will follow.

#### Definition of “Program”

The “program” definitions that appear in Table 3 are derived primarily, but not exclusively, from European peer-reviewed publications.

Table 3. Definitions of “Program”

Definition	Source
A group of related projects, managed in a coordinated way to obtain benefits and control not available from managing them individually	Project Management Institute
A collection of projects related to some common objective	UK Association for Project Management <sup>38</sup>
A coordinating mechanism for projects that enables otherwise unrealizable benefits to be extracted	Ferns <sup>38</sup>
A portfolio of projects which are managed in a coordinated way to deliver benefits which would not be possible were the projects managed independently.	Turner and Ferns <sup>9, 51, 54</sup>

Definition	Source
The integration and management of a group of related projects with the intent of achieving benefits that would not be realized if they were managed independently. Whilst connected, this is distinct from portfolio management.	Lycett, Rassau and Danson <sup>25</sup>
The coordinated management of a series of interconnected projects and other non-project work, for the delivery of a specific package of benefits	Maylor et al. <sup>26</sup>
A collection of change actions (projects and operational activities) purposefully grouped together to realize strategic and/or tactical benefits	Murry-Webster and Thiry <sup>28, 56</sup>
A Group of related projects which together achieve a common purpose in support of the strategic aims of the business	British Telecommunications plc. Project Management Handbook <sup>4, 12</sup>
A temporary, flexible, organization created to co-ordinate, direct and oversee the implementation of a set of related projects and activities in order to deliver outcomes and benefits related to the organization's strategic objectives; a program is likely to have a life that spans several years.	OGC Guide Managing Successful Programs (2007) <sup>31</sup>
A temporary organization in which a group of projects are managed together to deliver higher order strategic objectives not delivered by any of the projects on their own.	Turner and Muller <sup>22, 52</sup>
A framework for grouping existing projects or defining new projects, and for focusing all the activities required to achieve a set of major benefits. These projects are managed in a coordinated way, either to achieve a common goal, or to extract benefits which would otherwise not be realized if they were managed independently.	Pellegrinelli <sup>39</sup>
A group of projects that are managed in a coordinated way to gain benefits that would not be possible were the projects to be managed independently.	Ferns <sup>9</sup>

A review of the various definitions of “program” that appear in peer-reviewed journals reveal that the definitions have the following three generally accepted key points and common themes:

- A program is a temporary organization that actively coordinates management of a group of related and/or interconnected projects

- Programs provide a framework to achieve benefits that would not be realized if their constituent projects were managed individually
- Programs facilitate activities that are intended to deliver benefits and outcomes that directly facilitate achievement of an organization's strategic goals

Although programs are temporary in nature, the end point of a program is defined by achievement of a strategic outcome, which does not necessarily coincide with a rigid schedule. Since long-term strategic objectives can often take years for an organization to achieve and achievement can be affected (positively or negatively) by factors that are both internal and external to an organization, programs can be “temporary” organizations that exist for several years.

The active management of a group of related and/or interconnected projects gives program leaders the opportunity to adapt projects and shift resources between projects in order to better enable achievement of the containing organization's strategic goals. This active management of the projects within a program occurs at the middle-management level of an organization where Program Leaders reside. Since Program Leaders are privy to the containing organization's strategic goals, aware of internal and external factors that could affect achievement of strategic goals, close enough to the day-to-day activities of the constituent projects within their respective programs and granted the appropriate delegation of authority, they are enabled to interactively (or at-least proactively) adapt the projects and project outputs within their respective programs to create opportunities that either enhance the likelihood of achieving strategic objectives or minimize threats that jeopardize realization of such objectives. Adaptation of projects by Program Leaders is also intended to ensure that individual project outputs are complimentary to one another and therefore collectively provide the appropriate benefits that are effective in supporting

achievement of the containing organization's larger strategic objectives. From a tactical perspective, projects can be adapted to shift and/or share resources between projects to enable execution of projects more efficiently than if they were managed individually.

After reviewing and analyzing the three generally accepted key points and common themes that are associated with the various definitions of "program" that appear in peer-reviewed journals, the following new definition is proposed:

A program is a group of interconnected projects and other non-project activities that are managed in a coordinated manner to deliver benefits that enable achievement of a common strategic objective (or set of common strategic objectives) and/or short-term tactical efficiencies that cannot be obtained by managing such projects and non-project activities separately.

#### Definition of "Program Management"

The discussion of "program management" begins with a presentation of definitions that have appeared in peer-reviewed journals (see Table 4). This information will be followed by the identification and analysis of common themes among these definitions and the proposal of a new "program management" definition.

Table 4. Definitions of "Program Management"

Definition	Source
The art and science of optimizing the pursuit of strategic goals in highly uncertain and complex environments by dynamically adapting plans for the investment of resources	Heaslip, 2009, Unit 1, p. 36
The coordinated support, planning, prioritization and monitoring of projects to meet changing business needs.	Ferns <sup>9</sup>
The process of coordinating the management, support and setting of priorities on individual projects, to deliver additional benefits and to meet changing business needs.	Turner and Ferns <sup>9, 51, 54</sup>
The integration and management of a group of related projects with the intent of achieving benefits that would not be realized if they were managed independently.	Lycett, Rassau and Danson <sup>25</sup>

Definition	Source
The coordinated management of a series of interconnected projects and other non-project work, for the delivery of a specific package of benefits	Maylor et al. <sup>26</sup>
Enterprise Program Management [is the] structures and processes creating tight linkages between organizational strategy and the totality of its projects and related change activity.	Williams and Parr; Graddie <sup>41</sup>
A framework for grouping existing projects or defining new projects, and for focusing all the activities required to achieve a set of major benefits. These projects are managed in a coordinated way, either to achieve a common goal, or to extract benefits which would otherwise not be realized if they were managed independently.	Pellegrinelli <sup>39</sup>

The two common themes that appear among the “Program Management” definitions that have been published in the referenced peer-reviewed publications are that Program Management is:

- A set of structures, processes and/or a framework for aligning project and operational change activities with organizational strategy
- The art and science of optimizing the pursuit of strategic goals in an uncertain and complex environment by dynamically adapting plans for the investment of resources

These program management themes address the need for an active and continuous oversight process to ensure that project and operational activities continue to support achievement of strategic objectives over the entire lifecycle of a program. This process involves an initial plan or roadmap that links how projects and operational activities are intended to deliver benefits that support achievement of strategic goals. Additionally, the provision of authority to program leaders to rapidly adapt program activities (projects and operational activities) on an as-needed basis to changing conditions that could affect achievement of strategic objectives is necessary. Considering that achievement of strategic goals is a long-term endeavor that can be affected by internal and external risks

(both opportunities and threats, including those that are unforeseeable), the delegation of authority to program leaders to adapt program plans by changing schedules and reallocating resources is a critical success factor in program management.

Based upon the common program management themes and the definition of “Program” that is presented in this paper, the following new “Program Management” definition is proposed:

The process of aligning the management, support, planning, prioritization and monitoring of interconnected projects and applicable operational change actions with organizational strategy and changing business needs in order to deliver additional strategic and/or tactical benefits that that would not be achieved if such project and operational activities were managed independently

### Program Management Goals

Program management goals focus on improving efficiency and effectiveness through better prioritization, planning and coordination in the management of projects<sup>3</sup>,<sup>39</sup>, as well as in the development of a business focus by defining the goals of individual projects and the entire program in regards to the requirements, goals, drivers and culture of the wider organization.<sup>3, 25</sup> Table 5 details the Lycett, Rassau and Danson characterization of program management goals and goal categories.

Table 5. Program Management Goals and Goal Categories<sup>25</sup>

Goal	Description	Representative Literature
<i>Efficiency and Effectiveness Goals</i>		
Improved Co-ordination	Assist in identification and definition of project interdependencies and thereby reduce the incidence of work backlogs, rework and delays	30, 37
Improved Dependency Management	Reduce the amount of re-engineering required due to inadequate management of the interfaces between projects	30, 37
More Effective	Improve the effectiveness and efficiency of the	27, 30, 37



Resource Utilization	allocation of shared resources	
More Effective Knowledge Transfer	Provide a means to identify and improve upon transferable lessons.	(Mentioned in 35 but not developed in the literature)
Greater Senior Management Visibility	Enable senior management to better monitor, direct and control the implementation process	27, 30, 37
<i>Business Focus Goals</i>		
More Coherent Communication	<p>Improve communication of overall goals and direction both internally and externally to the program</p> <p>Target management attention clearly on the realization of benefits that are defined and understood at the outset and achieved through the lifetime of the program and beyond</p> <p>Assist in keeping personal agendas in check</p>	30, 37
Improved Project Definition	<p>Ensure that project definition is more systematic and objective, thereby reducing the prevalence of projects with a high risk of failure or obsolescence</p> <p>Enable either the unbundling of activities in a strategic project-set in to specific projects</p> <p>Enable the bundling of related projects together to create a greater leverage or achieve economies of scale</p>	13, 37
Better Alignment with Business Drivers, Goals and Strategy	<p>Improves the linkage between the strategic direction of organizations and the management activities required to achieve these strategic objectives</p> <p>Provide an enabling framework for the realization of strategic change and the ongoing alignment of strategy and projects in response to a changing business environment (via project addition/culling, etc.)</p>	27, 37

## CHAPTER 3

### PROGRAM MANAGEMENT AS A MEANS TO ACHIEVE DESIRED STRATEGIC OUTCOMES AND INITIATIVES THROUGH ACTIVE MANAGEMENT OF PROJECT AND OPERATIONAL ACTIVITIES

#### Why is Program Management Necessary?

Program management is necessary in order to better align the tactical outputs of a project and operational activities with the strategic initiatives of the containing organization.

#### Limitations of a Project Management Environment

In many organizations, projects are authorized and, to a degree, managed as part of a formal project portfolio management process. In this model, a project is authorized with a defined scope, schedule and budget (commonly referred to as the “triple constraint”) and then given to a Project Management Office (PMO), where the project is initiated. The PMOs main function then becomes one of an administrator of shared project resources (allocation of people and/or equipment across a portfolio of projects) and project performance measures (verification of individual project performance within the triple constraint parameters). Since project managers are evaluated based upon their completion of projects within established project-specific triple constraints, project managers are not necessarily incentivized to identify project scope changes that would significantly affect project costs and completion dates even if such scope changes would better enable their containing organization to better achieve its desired strategic outcomes. In this environment, the best interests of the project manager and the

containing organization can often be at odds since a project output that does not meet the established triple constraint parameters, can have negative career implications for a project manager regardless of the additional value that it may create for the containing organization.

#### Advantages of a Program Environment

In a formal program environment, project managers would report to program leaders who have portfolio responsibility and are therefore incentivized to steer projects in a direction that is better suited to delivering desired benefits and strategic outcomes for the containing organization. Within their respective programs, Program leaders, who are charged with oversight of the strategic coordination that occurs between the projects within their programs, would be delegated some limited authority to modify the schedule, cost and scope of projects and to reallocate resources between such projects in order to better enable improved portfolio performance (and hence achievement of strategic outcomes and realization of desired benefits for the containing organization). This is not to suggest that all projects are managed completely independent of one-another in a traditional project environment.

As part of a traditional project portfolio management process, projects are funded based upon the value that their individual intended output(s) will contribute to the containing organization. Projects may often have interdependencies related to common deliverables and project managers may need to negotiate with a PMO and/or other project managers for availability of scarce resources. In a program environment these same characteristics exist, but are managed more efficiently and effectively because these decisions are made, or at least influenced, by program leaders that are directly

incentivized to have their portfolio of projects support achievement of the containing organizations goals, as opposed to a PMO or a project manager that is directly incentivized to have individual projects completed within a rigid triple constraint.

A program environment enables an organization to more rapidly adapt a projects' triple constraint to achieve an organization's strategic objectives in a changing environment and market since program leaders would have direct exposure to both the strategic focus of executives and the tactical project plans that are intended to enable achievement of strategic objectives. With these executive and project interfaces and the appropriate delegation of authority, program leaders would be able to utilize their influence and/or authority to quickly modify, reprioritize (including reallocating resources between projects) or even cancel a project within his/her program in order to close any gaps that may exist between existing project outputs and the achievement of strategic goals.

#### Prerequisites for a Successful Program Management Environment

In order for program management to be successfully implemented in an organization, there must be a consensus regarding what constitutes a program, program structures and processes, clarity of program responsibility and accountability, organizational alignment of and support for program objectives, program leadership and development training and program performance measurement.

#### Organizational Alignment Regarding Definition of "Program"

An organization needs to be aligned regarding what constitutes a program. The first step in this process would be to define the term "program". As stated earlier,

common themes in the definition of “program” that are found in peer-reviewed journals are to coordinate the management of the projects within a project portfolio, set priorities between projects and obtain additional benefits that are not obtainable through the individual projects. Processes should be in place to support implementation of program management within the context of the organizations definition of “program”. Such processes would define how programs are identified and how projects are prioritized to support achievement of the strategic goals that programs are intended to support.

#### Organizational Alignment Regarding Program Management Philosophy

A determination regarding the degree to which (or form of) program management is harnessed is necessary. Since there is not a single program management philosophy that can be effectively implemented in all organizations, there should be a recognition that different forms of program management exist. When selecting a form of program management to implement in an organization, consideration should be given to internal (vision, mission, values and culture of an organization) and applicable external (political, social, etc.) factors. Selection of a program management form and structure should be based upon that which best compliments these considerations. Van Buuren et. al.<sup>56</sup> have proposed three levels of “intensity” of program management. These levels can be characterized as a “light coordination mechanism for multiple projects (Type 1)”, “shared service center for projects (Type 2)” or an “integrated development strategy in which projects are building blocks for the overarching program objective (Type 3)”. It should be noted that these program types are not absolutes but rather that hybrids, adaptations or modified versions of these program management approaches are more common. A

description of the Van Buuren et. al. program management types may be found in Table 6.

Table 6. Summary of Van Buuren et. al.<sup>56</sup> Program Management Levels

<b>Program Level</b>	<b>Program Management Philosophy</b>	<b>Main Characteristics</b>
Type 1 – Light Coordination Mechanism	Portfolio Management – Coordination of activities with a low level of influence on internal management of individual projects	<ul style="list-style-type: none"> <li>- Fine-tuning existing project development processes</li> <li>- Realizing temporal and procedural coherence between projects</li> <li>- Program functions as a platform for project authorities to make decisions about projects in mutual cohesion</li> </ul>
Type 2 – Shared Service Center	Integration of a variety of project functions while allowing project autonomy in goal-setting and prioritizing	<ul style="list-style-type: none"> <li>- Same characteristics as Type 1 Programs except that financial, juridical, administrative and other services are integrated into a ‘service center’ that is used by various projects</li> </ul>
Type 3 – Integrated Development Strategy	Hierarchal direction for a goal-oriented program management arrangement <sup>(39, 56)</sup>	<ul style="list-style-type: none"> <li>- Single-objective program model<sup>(9, 56)</sup> where projects are result of program thinking—content or aim of project is determined by goals of program</li> <li>- Program shapes and reshapes projects from a joint interest</li> </ul>

### Program Structures and Processes

Program structures and processes will vary as a function of the complexity of a program. While the need to standardize program structures and processes across all projects in a program may seem apparent, Payne<sup>33, 34</sup> observed that successful programs are tailored to factors such as the differing size, urgency and skill mix of their constituent projects and that such inhomogeneity adds complexity to programs. Payne further states that in the management of small to medium sized projects, the main emphasis is on the prioritization of resources across several projects and that small projects cannot stand the bureaucracy of procedures designed for larger, more complex projects.<sup>34</sup> Payne asserts

that tailoring project management procedures to project size and resource type probably increases the chance of project success and that the application of common procedures across projects of all sizes, and across all resource types increases the risk of failure.<sup>34</sup> This conclusion is based upon the results of a questionnaire that Payne developed to test the hypothesis that it is better to use a common set of procedures on all projects in a program. The questionnaire was sent to approximately 5,000 project managers, including all the members of the UK's Association for Project Management, with 150 responses received.<sup>34</sup> A summary of Payne's findings is detailed in Table 7.

**Table 7. Project Success and Failure by Size of Project and by Resource Type with Tailored Procedures and Common Procedures<sup>34</sup>**

		Tailored Procedures		Common Procedures	
		% Success	% Failure	% Success	% Failure
Projects by Size	Large	78%	5%	69%	9%
	Medium	73%	5%	73%	7%
	Small	80%	2%	59%	16%
Differing Resource Types		74%	7%	70%	10%

### Organizational Alignment and Support for Program Objectives

There should be clarity of program responsibility and accountability at all levels of an organization. Programs must have clear objectives that are aligned to the achievement of an organization's strategic goals. In that regard, program objectives must supersede program plans so that success is measured as a function of achievement of desired outcomes and realization of benefits as opposed to conformance with rigid

program plans that cannot be adapted to meet changing conditions over the life of the program. Strategic goals, program objectives and the relationship between them have to be clearly communicated from the top of an organization and throughout program organizations, perhaps by a program-specific mission statement that is based on one of the containing organizations high-level strategic objectives. In order to facilitate such communication, there needs to be a relationship that includes regular formal and informal feedback between program leaders and senior executive managers (COO's, CIO, CFO, CHRO, etc.) that are intimately involved in strategic planning for the organization. This interaction will better enable program leaders to obtain the organizational support that is needed and to know when and how to adapt their respective programs to changing conditions and therefore better enable them to deliver achievement of desired outcomes and the realization of expected benefits for which they have been given responsibility.

#### Measurement Achievement of Program Objectives

After aligning the organization regarding the relationship between strategic goals and program objectives, consensus regarding what constitutes achievement of program goals is required throughout the organization. Measuring achievement of program objectives entails reaching agreement regarding *what* constitutes success, *how* success is measured, *who* measures success and *how often* progress is measured relative to a programs timeframe horizon (realization of success and sustained change often takes years).

With respect to what constitutes success, programs differ significantly from projects. Pelligrinelli<sup>39</sup> has observed that notions of incrementalism are more productive



when deciding what constitutes program success, where a range of outcomes is explicitly recognized and accepted at the outset. This is to say that a program may have an ideal outcome (or set of outcomes) that may never be reached, but that at some point between the containing organization's present condition and the ideal program outcome there is a "break-even point" and that beyond that breakeven point program benefits will outweigh program costs. It is between the breakeven point and the ideal program outcome(s) where a consensus must be reached between program leaders and executive management regarding what constitutes the minimum acceptable program outcomes. In order for a program management environment to be successful, there needs to be organizational acceptance that program progress is incremental and that there is a range of acceptable outcomes that may take several years to realize and, as Pelligrinelli<sup>39</sup> notes, "program progress resembles a directed meandering rather than a straight line".

It is necessary that the process for measuring success toward the achievement of program objectives take into account that some objectives cannot be measured effectively (for example, if an organization has an objective to become a "learning" organization, it is difficult effectively measure both the acquisition and the use of new knowledge).

When determining what constitutes success, consideration should be given to the types of rewards (raise, bonus, etc.) for program leaders relative to the degree of their success in achieving program objectives.

#### Development of Program Leaders

In order to facilitate the realization of benefits, appropriate selection and placement of program leaders and grouping of projects is critical. A program leader needs to have personal traits that include the ability to understand the tactical work of

projects, and also be both a strategic thinker and an adept manager of internal and external stakeholders.<sup>9</sup> In addition to having the aforementioned personal traits, program leaders need to be placed at a level in the organization where he/she has access to executive management and the authority to make decisions that are necessary to adapt programs to changing conditions. Since program leaders will assume responsibilities that were in the “executive” domain under project management systems, program leaders need to be placed at a level in the organization and have appropriate competencies so that they can work collaboratively with executive management.

Program leaders need to have a broad set of management and leadership skills. These skills fall into two broad categories – “people” and “business” skills. These skills should be developed by both current program leaders and high potential individuals that are likely to become future program leaders. In addition to formal classroom training, on-the-job training and mentoring should be utilized to develop leadership skills. In order to assess the effectiveness of training, on-the-job evaluation may be utilized. Consideration should be given to including program management certification (such as the “Program Management Professional” certification issued by the Project Management Institute), which would provide a good template for development of a program leader training curriculum. However certification demonstrates only that one has worked in a program or program-related function and has demonstrated comprehension of the subject-matter that is required to pass the certification test. Certification alone does not evaluate the effectiveness of program management implementation or the utilization of program management skills. As such, the primary method to measure program leadership aptitude

should be through on-the-job evaluation, with achievement of certification being a secondary measure that evaluates only comprehension of program leadership principles.

Since program leaders are often responsible for achieving outcomes that are beyond the scope of their direct control, development of “people” skills that focus on facilitative leadership and “management by influence” would be appropriate. Specifically, program leader development should include activities and/or training that builds proficiency in the identification of both internal and external stakeholders, assessing how much (positive or negative) influence various stakeholders may have on the achievement of program objectives and skills that a program leader may use to engage influential stakeholders and the media in a manner that supports achievement of desired program outcomes.

A program leader should develop “Business” skills in order to effectively manage both long-term planning and the day-to-day and aspects of programs. Long-term business planning skills development should include areas such as strategic planning and program requirements development. Expertise in strategic planning is necessary in order to enable program leaders to evaluate changes in an organization’s internal and external environment that could positively or negatively affect a program’s ability to accomplish the containing organizations strategic objectives. Requirements development prowess is necessary throughout the life of a program so that the program leader can translate a strategic plan into an initial program design and subsequent program plan revisions that adapt the program to changing internal and external environments. This combination of strategic planning and program requirements development will enable program leaders to achieve the containing organization’s strategic objectives over the life of a program. In

the words of Partington et. al., program management competence requires “a subtle blend of interpersonal skills and personal credibility, a deep understanding of the political dynamics of the formal and informal networks that form the organizational context, and a great knowledge of the broader strategic context”.<sup>32</sup> While strong project management skills may enable the completion of project work within the triple constraint, they do not necessarily translate into good program management skills and, as Partington has observed, many organizational leaders who have experience of promoting proven project managers into program management roles have found that the approach is unreliable.<sup>32</sup>

Ideal Program Leaders should possess business skills that enable them to manage the day-to-day aspects of program management. Such skills include, but are not necessarily limited to: management of budgets and finances, projects, risks and performance.

### Program management Pitfalls

Program management is a discipline that requires program managers and the management of their containing organizations to understand and accept that programs are long-term strategic endeavors that transform an organization. Programs involve some uncertainty and ambiguity and will therefore require adaptation over the course of a programs lifecycle. In order to implement program management effectively, organizations must resist the temptation to manage programs in the same manner as tactical endeavors, such as projects. As Lycett et. al.<sup>25</sup> have observed, organizations need to avoid the following pitfalls when implementing program management:

- Viewing program management as a scaled-up version of project management
- Excessive detail and control focus

- Ineffective cooperation between projects within a program
- Insufficient flexibility in the context of an evolving business strategy
- Using a “one size fits all” approach to program management

#### Viewing Program Management as a Scaled-up Version of Project Management

Program management should address both the areas of efficiency and effectiveness and business focus.<sup>25</sup> One common pitfall that involves inadvertent inattention to business focus is viewing program management as a scaled-up version of project management. When managing programs in the same manner as projects, the value of program management is diluted because emphasis is often placed predominantly on efforts to increase the tactical efficiency and effectiveness associated with individual projects. In this scenario, management attention is focused on completing individual projects through project resource allocation and schedule adjustments across a program, while adaptation of programs over time (adjustment of project scope or, if appropriate, addition and/or cancellation of certain projects) so that they deliver an organization's desired strategic outcomes and expected benefits receives less attention. Therefore, the management of programs as scaled-up projects is an impediment to achieving an organization's desired strategic outcomes.

### Excessive Detail and Control Focus

The excessive attention to detail and control by management that results when programs are managed as projects often occurs when there is a reliance on the use of program management software to measure program success. This type of software focuses on tactical issues, such as resource management and integrated planning and scheduling across projects within a program, to drive program decisions and measures of success. The availability of tactical information, that although relatively easy to process, creates a cost in terms of increased bureaucracy associated with reporting requirements for program support and project personnel, that exceeds its benefit since it diverts attention away from strategic program issues and toward tactical project issues. The focus at the program level should be on the interfaces between projects<sup>23, 25</sup> while tactical issues should be left to project managers. Program leaders should focus more on interfaces between projects to ensure that the right work is completed and not duplicated. This is important given that interdependencies often become associated with issues of ownership. People working on different initiatives either tacitly cover the same ground or else assume that other people will do the work<sup>25</sup>.

### Ineffective Cooperation Between Projects Within a Program

An environment of competition between projects within a program should be replaced with processes for interface between projects that facilitates collaboration toward achieving program goals and organizational learning. Since project managers (and project teams) are normally evaluated based upon their ability to complete projects within the triple constraint, there are inherent incentives for competition between projects for project resources and for projects to operate efficiently, but independently, of other

projects within a program. This “competition” and “independence” creates an environment where project resources may be distributed based upon the shrewdness of project teams instead of the project priority set by a Program Leader. In addition, a competitive environment inhibits organizational learning across projects because, upon project closure, project teams are tacitly incentivized to “contain” information regarding any project failures because such failures often reflect negatively on project teams and are not viewed as “lessons learned” that could be beneficial across a program. In order to create an environment where program objectives and project team incentives are aligned, organizations should replace this mechanistic thinking (where it is assumed that in order for the program to function optimally, all of the individual projects must function efficiently at all times) that enables excessive and unhealthy competition with a systems thinking approach. When adopting a systems thinking approach, program leaders and project managers accept that in order for a program to best deliver the benefits that are needed to achieve an organization’s strategic objectives, its individual parts/projects always need to function in harmony with one-another in order. In order to do so, there will be instances where the optimal performance of some projects will need to be preserved even if it is at the expense of other lower priority efforts.

#### Insufficient Flexibility in the Context of an Evolving Strategy

A program is a long-term endeavor that must be adapted to an organization’s evolving strategy. Therefore, program-level change management processes should be tailored to adapt program efforts (projects and certain operational activities) so that they coincide with objectives associated with the organization’s evolving strategy. In order to

do so, program-level and project-level change control processes should be viewed as distinct and different.

Program change management is intended to be a flexible process that keeps programs aligned with the strategy and evolving environment of the containing organization, whereas project change control is a well-defined tactical process that affects individual project outputs. Program change management is often encroached by project change control thinking as it pertains to the program lifecycle. While project lifecycles are linear, defined in detail and have a predetermined closure date, program lifecycles should have less definition and control so as to allow the program to be adapted to a changing business environment. This means that programs should be flexible enough so that projects can be added, deleted or changed as needed and that programs would be given an indefinite time horizon, in lieu of a defined schedule. Program continuance and closure decisions would be based upon periodic stop-gate analysis that would analyze whether or not the program is continuing to deliver expected benefits and intended outcomes.

#### Using a “One size Fits All” Approach to Program Management

As stated earlier (in the “Program Structures and Processes” section), program structures and processes need to vary as a function of the complexity of a program. While some administrative requirements are necessary for all projects within a program, the degree of administrative activities should be tailored to the size and complexity of each project. In the absence of this variation, small projects may become overburdened with bureaucracy that can increase the likelihood of the project not delivering its intended



outputs. This scenario can adversely impact a program's ability to deliver the benefits that are needed to achieve one or more strategic objectives.

## CHAPTER 4

### PROPOSED PROGRAM MANAGEMENT ROLES AND RESPONSIBILITIES IN THE UTIL IT ORGANIZATION

In this chapter, a proposed UTIL IT department organizational structure is presented, followed by a description of key program management roles and responsibilities in the proposed IT organization.

This ideal program management environment is designed using systems thinking principles, whereby all constraints (headcount, budget, political. etc.) are considered non-existent. Additionally, the systems thinking approach requires that the existing IT Department organizational design and functions, hereafter referred to as the *existing system*, be removed from consideration when developing an ideal IT organizational structure. While full implementation of an ideal design is impractical, initial conceptual development of an ideal design is an effective method for creation of an organizational structure that is aligned with the organization's vision. Therefore an ideal design enables organizational movement toward the organization's vision in larger increments than if the future-state system were based exclusively on a reform or revision of the existing system. In addition, designing the future-state system based upon the reformation of the existing system can be counterproductive because it confines the thinking of the system designers and users into finding ways to more efficiently implement an existing system that may limit the organization's ability to deliver desired benefits and strategic outcomes. In Chapter 8 (and Appendix A), a plan to develop and implement a program management environment in the UTIL IT Department will be presented.

### Organizational Design

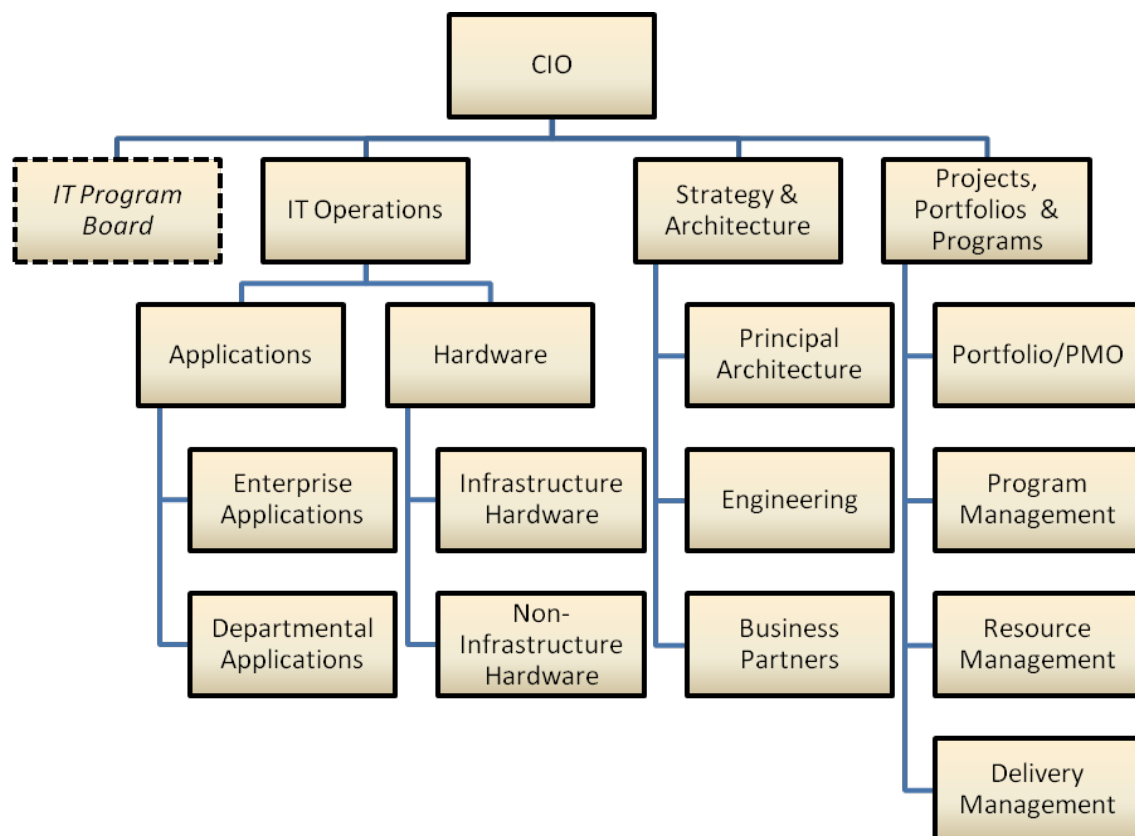
The ideal IT organizational design is intended to serve three major functions.

They are:

- Operations and maintenance of IT assets, products and services (IT Operations)
- Overall IT system design and engineering (Strategy & Architecture function)
- Delivery of new IT benefits that support achievement of organizational strategic goals and operational efficiency (Projects, Portfolios & Programs function).

An ideal UTIL IT organization design that addresses these needs and enables implementation of program management is detailed in Figure 2.

Figure 2. *Ideal UTIL IT Organization Design*



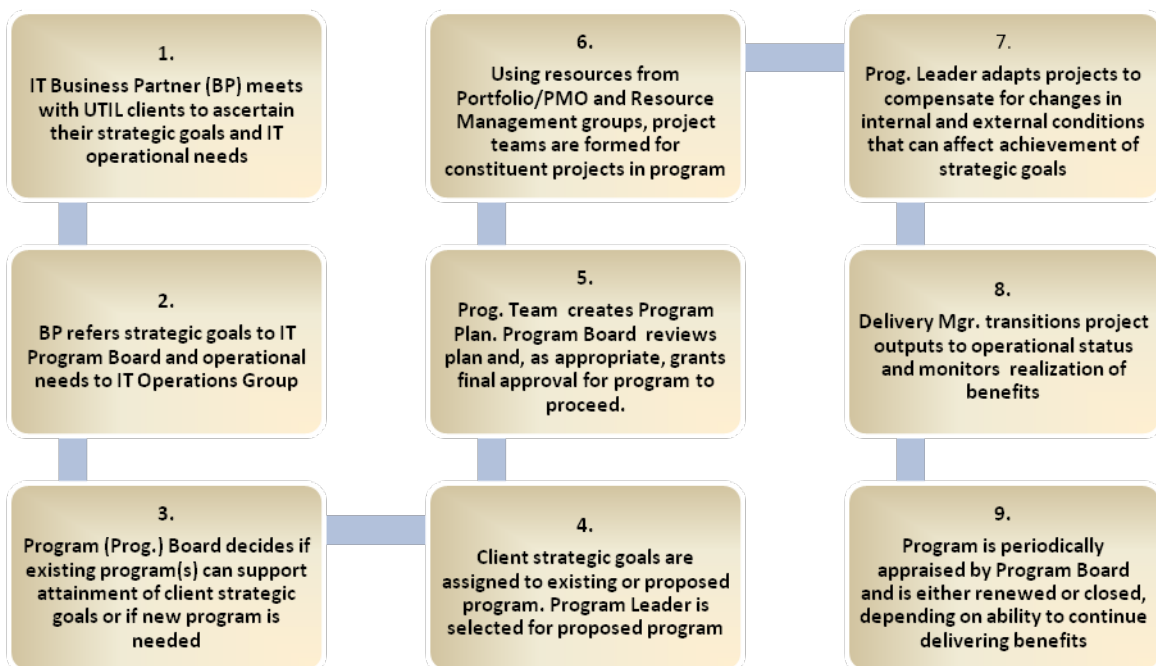
### Key Program Management Roles

Within the proposed IT organization, there are six key functions where core program management activities occur. They are:

- Business Partners
- IT Program Board,
- Program Management
- Portfolio/PMO
- Resource Management
- Delivery Management

A summary of the program management lifecycle, with a description of the responsibilities of the six key functions over the course of the program lifecycle, is detailed in Figure 3.

Figure 3. Responsibilities of Six Key Program Management Roles Over the Course of an IT Program Lifecycle



### Key Program Management Roles – IT Business Partner

The *Business Partner* function is a group of senior IT managers that act as an interface between the IT organization and the individual UTIL organizations (i.e. Electric Generation, Electric Delivery, Gas Delivery, Shared Services, etc.) that are supported by the IT organization. In this role, the IT Business Partners interact with client organization senior and executive managers to understand client strategic goals and operational needs. With knowledge of the client's strategic goals and operational needs and the existing IT products and services that are utilized by the client, the IT Business Partner will have the necessary information to determine the technology-related support that will be needed from IT to aid the client in transitioning from their current state to their desired future state. After understanding the technology support needed by the client, the IT Business Partner can divide IT work into two categories. They are:

- Work that is intended to deliver new benefits and capabilities
- Activities that are needed to support or enhance operation and maintenance of existing IT products and services.

Work that is intended to deliver new benefits and capabilities that enable attainment of desired strategic outcomes will be referred to the IT Program Board so that it can be managed through programs. Operations and maintenance work that does not materially affect the attainment of desired strategic outcomes will normally be managed outside of programs, in the IT Operations organization or as individual IT projects, as appropriate. During the life of an IT program, the Business Partner's critical role may be found in steps one through three in Figure 3. However, a Business Partner will be a key stakeholder throughout the life of a Program because of his/her role as the primary interface between IT and the UTIL client organization.

### Key Program Management Roles – IT Program Board

The *IT Program Board* is a cross-functional body that provides organization and governance for IT programs. The Program Board, reporting to the CIO, is responsible for providing high-level oversight of programs and program-related processes. A more detailed discussion of IT Program Board may be found in Chapter 7 – “Program Governance”.

In order to organize the UTIL client organization’s strategic goals into workable tranches (a group of projects structured around distinct step changes in capability and benefit delivery<sup>31</sup>), the IT Program Board will evaluate strategic initiatives and determine whether they can be supported by adapting existing IT programs or whether new programs are required. The IT Program Board will also be responsible for prioritizing programs, defining acceptable risk profiles and thresholds, establishing and monitoring acceptable program parameters (cost, organizational impacts and rate/scale adoption, expected/actual benefits realization, etc.), resolving strategic and directional issues between programs and evaluating operational stability and effectiveness of programs to determine whether programs are efficiently utilizing organizational resources and effectively delivering desired benefits.<sup>31</sup>

The IT Program Board should be comprised of senior management representatives from IT and the UTIL client organizations that collectively have a broad knowledge and understanding of the IT and UTIL client organization’s strengths, weaknesses, capabilities, vision, mission, values and strategic objectives. Ideally, the IT Program Board should be chaired by the CIO and consist of IT Directors, IT Business

Partner Lead, IT Program Management Lead, IT Delivery Management Lead and senior managers or executive representatives from each UTIL client organization.

#### Key Program Management Roles – Program Management

The role of the IT *Program Management* function is to synthesize the UTIL organizational strategic objectives into workable groups of IT projects that are actively managed and adapted to deliver desired technology benefits that support achievement of the UTIL client organization's strategic goals. Within the IT Program Management function is a group of Program Leaders that take ownership of the process of delivering technology benefits that enable achievement of the UTIL organization's strategic goals. In order to do so, the individual IT Program Leaders should collaborate with their Program Teams to formulate groups of projects that are intended to deliver the technology benefits that are needed to enable the UTIL client organizations to achieve their strategic objectives. Program Leaders should also assign Program Team members to act as the primary interface between the Program and internal UTIL organizational resources (Finance and Accounting, Legal, Legislative Compliance, Sourcing and Procurement, Risk and Issue Management, etc.) that are external to the program but provide support and advisory services with respect to conformance with corporate and program governance requirements.

After the initial group of projects has been conceptualized, the Program Leader initially manages implementation of the Program by coordinating with the Portfolio/PMO function and the Resource Management functions to appoint Project Managers and Project Teams to plan and execute the individual projects within the program and to appoint Delivery Managers that will work with client organizations to transition project

outputs (new capabilities) to operational status, thus enabling realization of desired benefits and achievement of strategic outcomes.

Over the life of the program, which may span several years, a Program Leader will “actively” manage the program. This “active” management involves adapting projects within the program to meet changing conditions that are both internal and external to the containing organization. In practice, active management means that a Program Leader would be adjusting the schedule, cost and scope of existing projects within the program and adding new and/or deleting existing projects so that project outputs collectively provide the maximum benefit at a point in time when they are most valuable to the UTIL organization client. A Program Leader, with the support of his/her SRO and the IT Program Board, is primarily concerned with strategically managing a program so as to ensure that projects within the program are “doing the right work” that will produce desired benefits and adapting programs to meet changing internal and external conditions that may materially affect the achievement of the containing organizations strategic objectives.

#### Key Program Management Roles – Portfolio/PMO and Resource Management

The role of the *Portfolio/PMO* and *Resource Management functions* provide personnel and other tactical assets that enable execution of projects, in accordance with the priorities set by the IT Program Board.

The Portfolio/PMO function is responsible for providing Project Managers for individual projects and independent oversight of the portfolio of projects. The project managers’ report administratively to the Portfolio/PMO function, however they have a matrix reporting relationship to the Program Leaders to whom they are assigned. The



Portfolio/PMO organization also independently monitors metrics related to schedule, cost and scope for all projects that are reported to clients and IT management, including Program Leaders.

The Resource Management function coordinates with Project Managers the selection and availability of the personnel and equipment that are necessary to enable the completion of project work. The personnel that support project work will fall into one of two groups. They are:

- Dedicated project personnel that administratively report to the IT Resource Management Manager and have a matrix reporting relationship to the Project Manager to whom they have been assigned
- IT professionals that report directly to the IT Strategy and Architecture or IT Operations organizations whose support of IT projects is a collateral duty.

The Resource Management function will also act as the “owner” of any specialized equipment or vehicles that are shared across the IT organization. In the event that resource conflicts arise regarding the availability of Resource Management employees and equipment, the resolution of such conflicts should be in accordance with the Program priorities set by the IT Program Board. For “material” resource conflicts that involve the availability of IT Strategy and Architecture and IT Operations employees, such conflicts should be referred to senior IT management for resolution.

#### Key Program Management Roles – Delivery Management

The role of the *Delivery Management* function is to transition project outputs into operational status in client organizations in order to enable realization of benefits that a program is intended to deliver. For each program, a Delivery Manager will be appointed. The Delivery Manager will work collectively with each Project and the client organization(s) that are intended to utilize the project output(s). This process will involve

the Delivery Manager engaging the project and the client organization while the project is in progress to prepare both organizations for turnover of project outputs. The Delivery Manager acts in a quality assurance function to verify that the intended project outputs will, in-fact, create the desired benefits for the client organization that the Program was designed to deliver. In addition, before the project is completed and project outputs are turned over to a client organization, the Delivery Manager identifies and assesses potential opportunities and threats that may affect client realization of desired benefits from project outputs. Based upon the results of this assessment, the Delivery Manager develops appropriate responses to capitalize on opportunities and neutralize threats. After a project has been completed and project outputs have been turned over to the client organization, the Delivery Manager monitors the client organization to assess whether the project outputs have, in-fact, delivered the desired benefits and are positively impacting achievement of the client organizations strategic objectives. The results of the Delivery Manager's post-project assessment should be shared with the Program Leader and the appropriate IT Business Partner(s) and include any recommendations for additional actions, projects or process changes that would better enable the Program to support achievement of the intended strategic objective(s).

## CHAPTER 5

### THE PROGRAM MANAGEMENT LIFECYCLE

The project and program management lifecycles are often described as being similar in nature, albeit different at the detailed level. Both comprise a sequence of steps<sup>3, 25, 42; 50</sup> for identification, definition and planning, executing, controlling and closing<sup>3, 39</sup>. Pellegrinelli<sup>39</sup> has observed that, in terms of lifecycle, programs differ from projects in that they do not have a single, clearly defined deliverable, or a finite time horizon. Unlike projects, the decision to close a program is based on whether an organization has achieved the desired results or strategic outcome (or whether the program is still adding value) as opposed to completion of delivery of its constituent project outputs.

Thiry<sup>3, 50</sup> and Lycett et al.<sup>25</sup> identify a program life cycle along a hierarchy of projects, programs and strategy. The program life cycle consists of steps for program identification, definition, formulation, organization, deployment (execution), appraisal and dissolution (closure). In this chapter, a description of the Thiry and Lycett program lifecycle and its relationships to the proposed UTIL IT organization is discussed.

#### Program Identification

*Program identification* defines “the overall objective for the program and positions the program within the organization’s corporate mission, goals, strategies, other initiatives<sup>25, 30</sup>, vision and values. It is at this point that programs are “initiated”. During this initiation process, the benefits and desired outcomes that are intended to be delivered by a program are identified and analyzed. Haughey suggests that, at the identification

stage, it is important to give boundaries to the program explaining exactly what will be delivered.<sup>14, 25</sup> As part of the boundary-setting process, it is important that an evaluation of other programs takes place. The results of this evaluation will determine what new projects will be required for the proposed program and whether existing programs will require redefinition. The redefinition of existing programs will involve decisions regarding whether the constituent projects in existing programs will need to be redistributed among other programs and/or whether the scope of such projects will need to be modified.

#### Initiation of Program Identification Process

In the proposed UTIL IT organization, the Program Identification process is initiated by the IT Business Partners who consult with their respective UTIL client organizations to ascertain their vision, mission, values and associated strategic objectives. It is during this interaction that the IT Business Partners and client senior management representatives come to a consensus regarding the expected benefits that the IT organization will need to deliver to support the client's desired strategic outcomes. After this information has been obtained, the IT Business Partners will present the client strategic objectives, and the associated expected benefits that IT is to deliver to the client, to the IT Program Board. It is at the IT Program Board level that the expected benefits are initially analyzed. The individual UTIL client's expectations should first be evaluated to determine whether they are technically possible and can be cost-effectively delivered. This evaluation should also include a review to assess the (positive and negative) effects that delivery of such benefits may have on IT systems and processes that support the UTIL organization as a whole. Based upon the results of the evaluation, the

IT Program Board can begin to conceptualize how to deliver the desired benefits to the client—either through modification of an existing program or the development of a new program.

After a proposed program has been evaluated and conceptualized by the IT Program Board, the results of the evaluation that support moving forward with the modification of an existing program or development of a new program should be used for persuading others that may be affected by the program to accept that change is necessary and that the need for the proposed program is valid. This stage involves identifying stakeholders, both program advocates and opponents, and negotiating strategic change among stakeholders and establishing the context of the proposed program within the organization. It is the result of this negotiating process that ultimately determines the momentum of a program and whether the program will have the necessary backing to achieve the intended outcomes.

### The Program Brief

Details derived from the program identification stage should be documented in a “Program Brief”. Specifically, the Program Brief should outline the program vision as well as benefits, risks, issues and definition of the size, constitution and projected duration of the proposed program.<sup>25</sup> From the time that a proposed program is first conceptualized to the point where a consensus between stakeholders is reached that a program will move forward, the program brief may go through a number of revisions. Subsequent revisions to the Program Brief may take place whenever a program is renewed or at any time when a programs vision, expected benefits and outcomes and/or definition is modified. After the program brief is “finalized”, the program leader and

program team will have the knowledge needed to identify and select the UTIL organizational support resources that possess the appropriate skills, abilities and competencies that will be needed to realize the programs intended benefits and outcomes. Preparation and update of the Program Brief and selection of the program leader and program team should be the responsibility of a Program's "Senior Responsible Owner", while selection of the UTIL organizational support resources should be at the discretion of the program leader and program team. In the proposed UTIL IT organization, a Program's Senior Responsible Owner should reside at the IT Director-level.

#### Program Definition and Planning

The *Program definition and planning* stage is about determining how the program can add value.<sup>39</sup> In order to do so, detailed program objectives are developed and responsibilities for the detailed objectives are allocated to program team members. This information is detailed in a program plan that provides a roadmap for the activities that will deliver the desired program benefits and outcomes. This stage establishes the processes and support structures required to facilitate the management of the program.<sup>25</sup> Here, the interdependencies of the proposed projects that make up the program are clarified and used as the basis for the high-level program plan, which provides an indication of the sequencing of projects.<sup>14, 25</sup>

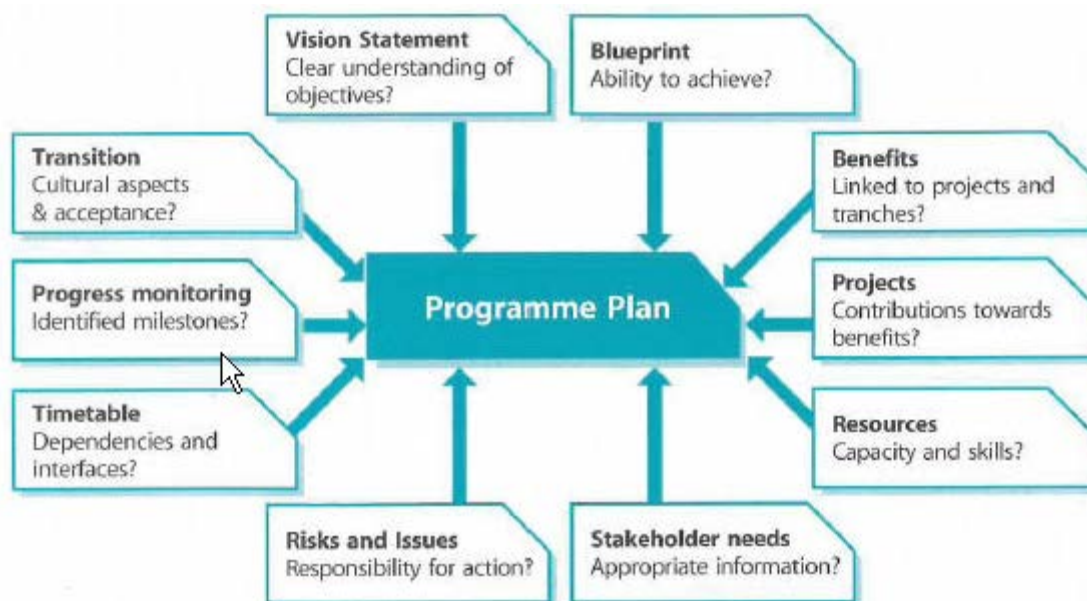
### The Program Plan

Managing Successful Programs (program management standard developed by the British Office of Governmental Commerce) (MSP)<sup>31</sup> suggests that Program Plans should contain the following core information:

- Project timescales, costs, outputs and dependencies
- Risks and assumptions
- Schedule showing the program's tranches
- Transition plans
- Monitoring and controlling activities and performance targets

The Program Plan, since it contains the above information regarding individual proposed projects and details how such projects are linked to an organization's strategic objectives, will be a pre-requisite for capital projects that require analysis via the Project Portfolio Analysis process and approval from the UTIL Capital Review Board.

Considering that programs are long-term endeavors that typically have a time horizon of several years, Program Plans should be considered a living document that may undergo periodic revisions. These revisions will typically add more detail to a Program Plan as learning takes place throughout the life of the Program and/or reflect changes to the program that are based on internal or external factors (such as changes in technology and market conditions, availability of capital resources, regulatory environment, etc.). Information that is a prerequisite for the development of an effective Program Plan may be found in Figure 4.

Figure 4. Contributions to Program Planning and Control<sup>31</sup>

In the UTIL IT organization, the program leader should be responsible for development and maintenance of a Program Plan. During the development and revision of Program Plans, input should be solicited from the IT Program Board, applicable IT Business Partners and senior management representatives of the affected business units. A review of the Program Plan should be conducted by the applicable IT Director that acts as the Program's Senior Responsible owner prior to approval of the plan by the IT Program Board.

#### Program Formulation

The *Program Formulation* stage begins after the reviews, and associated approval decisions, have been completed for all projects that had been proposed during the Program Definition and Planning stage. At this juncture, Program Leaders group approved projects into programs based upon the benefits that the project outputs are



intended produce, relative to how they will support achievement of strategic objectives. After a program is formed, opportunities should be sought to identify and plan resources to execute projects and programs at the lowest possible cost.

The Program Formulation stage is a multilayered process that involves grouping projects based upon the strategic goals that they support. When formulating programs, a comparison of the list of approved projects with the list of projects that were proposed during the Program Definition and Planning stage should be conducted to identify and close any potential gaps between the outputs of the approved projects and the benefits (initially identified during the Program Definition and Planning stage) that are necessary to support achievement of business unit client's desired strategic outcomes. This review should also be used to identify any projects that may produce outputs that are applicable to more than one program and hence will result in benefits that may support achievement of multiple strategic objectives.

#### Use of Project Definition Reports in Program Formulation

A pre-requisite for forming programs is development of "Project Definition Reports".<sup>34, 54</sup> Such project definition reports, usually prepared for all projects as a requirement for project portfolio project selection and valuation processes, will be based on a common model. The information in these reports should be standardized so that all projects are defined in a consistent way. For larger projects the report will be more detailed than it is for smaller projects.<sup>34</sup> In addition to giving a common basis for comparison and prioritization at the portfolio level, the information in project definition reports can be used by the Program Leaders to identify benefits, including benefits that are applicable across two or more programs. Based upon the information in the project

definition reports, program leaders can identify decision points where program progress can be evaluated and where decisions to adapt a program to changing conditions that may affect achievement of desired strategic outcomes can be made. Projects that are defined to be short in duration and with a restricted scope are ideal because they give program leaders more frequent opportunities to redefine subsequent projects and therefore adapt a program to changing conditions. In the UTIL organization, overall responsibility for development of Project Definition reports will reside with the Program Leader. Program Team members, at the direction of the Program Leader, will be responsible for compiling individual Project Definition reports. The Project Definition Reports would then be given to Project Managers to develop individual Project Plans.

#### Establishing Links Between Projects Within a Program

After a program is formed (based upon the benefits that it is intended to deliver, relative to desired strategic outcomes), opportunities to share resources that are needed for multiple projects both within the same and across different programs, should be sought. The information contained in Project Definition reports can be used to initially identify links and interfaces and to organize and refine the grouping of projects within a program. In order to coordinate the efficient sharing of resources and facilitate delivery of new capabilities and expected benefits, Program Leaders need to communicate frequently with one-another, the IT Program Board, applicable IT Business Partner(s) and the UTIL organizational resources that support (one or more) IT programs so that all programs can proceed efficiently and in accordance with priorities established by the IT Program Board.

Turner and Speiser<sup>51</sup> and Ferns<sup>9</sup> have proposed methods to identify links and interfaces such as common deliverables, shared resources (people, materials, equipment or subcontractors), shared information or data, and shared technology (engineering, hardware or software).<sup>51</sup> A variation of these methods is proposed to plan project work within a program, after a program and its constituent projects have been approved to proceed. After links between projects are identified, a process is needed to group project work [within and, where practical, across] programs whereby links are analyzed and managed.<sup>9, 51, 54</sup> This process should involve identification of links that exist between projects, grouping projects [within and/or across] programs to minimize links, determining the impact of the links between projects, dividing the links into major and minor links and developing a plan for managing the major links.<sup>9, 51, 54</sup> Ferns<sup>9</sup> advocates that a “link score” could be used to assess whether or not projects would be best grouped together in a program. The Ferns<sup>9</sup> “Program-Benefits Matrix” and associated link scores (see Figure 5 and Table 8) are relatively easy-to-use tools that can be used to identify links and commonalities between projects and group such project work.

Figure 5. Example of a Program-Benefits Matrix<sup>9</sup>

Projects	2	ES						
	3							
	4		RC					
	5	SW, R	RC	SW, M	SW, R			
	6	C	R	SW, R				
	7			M	EC	SW, R	MC	
	8			M	C			EC
		1	2	3	4	5	6	7
Projects								

*Codes for commonality: S: systems (complex interfaces), R: resources, C: contractors, E: engineering, SW: software, M: market research. Read matrix as follows: select project (e.g. Project 5, and read that Project 5 has potential for common (a) software and resources with Projects 1, 4 and 7, (b) market research with Project 3, (c) resources and contractors with Project 2. Project 5 would not benefit from grouping with Projects 6 or 8.*

Table 8. Output of Program-Benefits Model<sup>9</sup>

Program A		Program B	
Projects 1, 2, 3, 5, 6		Projects 4, 7, 8	
Program Benefit	Link Score*	Program Benefit	Link Score*
Resources	6	Engineering	2
Software	3	Contractors	3
Contractors	3		

\*A measure of the strength of project relationships within a program

During the Program Formulation phase, projects should also be classified by type. While this classification is not necessary for grouping projects into programs, this classification will provide Program Leaders with a preliminary, high-level assessment of program risk and may provide them with an initial indication of which projects will require greater oversight. A characterization of project types, developed by Turner<sup>34</sup> and Cochrane<sup>34, 55</sup>, is detailed in Table 9 and Figure 6.

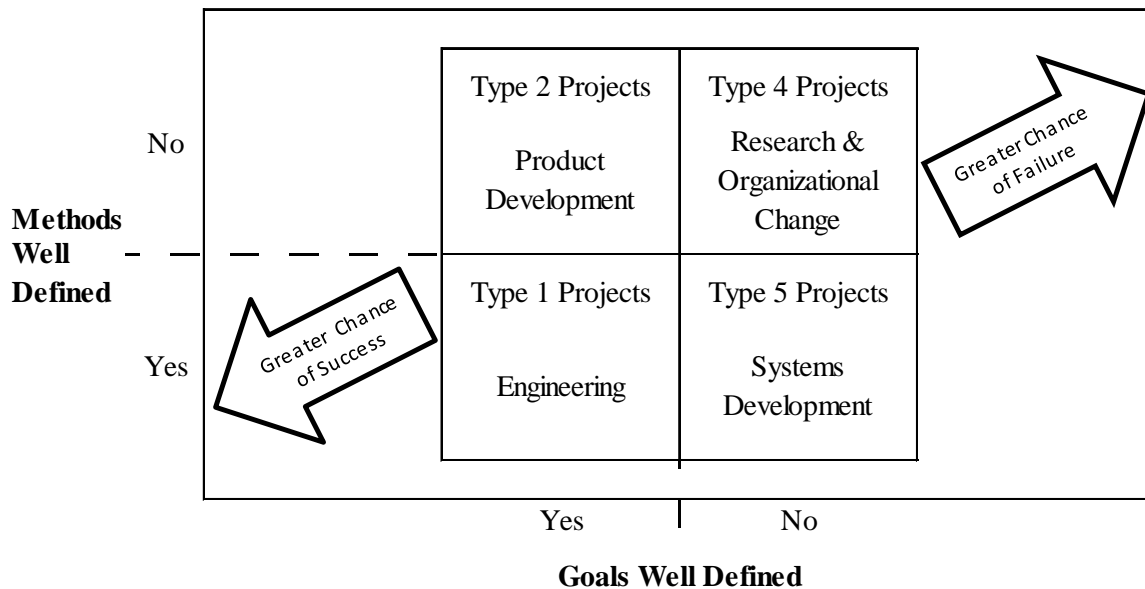
Table 9. Turner and Cochrane Project Classification by Project Type<sup>34</sup>

Project Type	Project Characteristics
Type 1 - Engineering Projects	<ul style="list-style-type: none"> <li>• Well-defined goals and methods of achieving goals</li> <li>• Project management methods are well-understood and documented in books, standards, etc.</li> <li>• Long history of proceduralization in engineering construction and building industries</li> </ul>
Type 2 - Product Development Projects	<ul style="list-style-type: none"> <li>• Goals are well-understood, but identifying the method of achieving goals is main point of project</li> <li>• Project plans are based upon Bill of Materials (Product Break-down Structure) that are based on known goals</li> <li>• Milestone based approach to planning - milestones represent components of eventual product</li> <li>• Type 2 projects typical of weapons system development and projects from electronics and manufacturing industries</li> </ul>
Type 3 - Information Systems Projects	<ul style="list-style-type: none"> <li>• With the goals poorly defined, planning approaches tend to be based around the project life-cycle - milestone-based approach to planning is adopted, but the milestones now represent completion of life-cycle stages.</li> </ul>
Type 4 - Research & Organizational Change Projects	<ul style="list-style-type: none"> <li>• Tend to be managed as Product Development (Type 2) or Information Systems (Type 3) projects depending on their nature</li> <li>• Research projects tend to be managed through the life-cycle and the achievement of go/no-go decisions</li> <li>• Organizational change projects tend to be managed through a Bill of Materials or product-based milestone plan</li> </ul>

Less Risk



More Risk

Figure 6. Turner and Cochrane's Goals and Methods Matrix<sup>34, 55</sup>

### Program Organization

After programs have been formulated, a rough cut capacity plan, or “Master Project Schedule”, that details the total resource demand for all projects within a program is developed during the *Program Organization* stage.

### Forecasting Resource Needs and Availability

Turner and Speiser<sup>51</sup> have devised a method for developing a Master Project Schedule, whereby a comparison is made between forecasts of resource requirements, prepared by Project Managers, that detail the resources that will be needed to complete projects within the triple constraint and a forecast of the available resources (prepared by Resource Managers). This initial “rough cut” capacity plan is then refined so that project schedules are moved or stretched to smooth peaks and troughs in resource availability. In cases where project schedules cannot be adjusted, or if specialized resources are not

available internally, then the use of outsourced resources should be incorporated into the rough cut capacity plan. The output of the process of refining a rough cut capacity plan and reconciling the resource needs for a portfolio of projects and the schedule of resource availability is the Master Project Schedule that Program Leaders will use as a guide to deliver a program's expected benefits and to achieve desired outcomes.

The Turner and Speiser Master Project Schedule is a tool that is intended to match *forecasted* project resource requirement demands with *forecasted* resource availability over a period of weeks and months. In reality, there is a delta between forecasted needs and schedules and actual results. Such deltas can occur due to factors (both internal and external to an organization) that necessitate adaptation of projects within a program so that project outputs can be altered to deliver capabilities and benefits that are aligned with the containing organization's evolving strategic needs. In these cases project resource type (expertise, equipment, etc.), in addition to availability, could be an issue. In other cases, project risks (threats and opportunities) that come to fruition and may affect project schedules and resource availability, as in the case where project resources are redirected to respond to an unplanned, non-project event (such as an operations adverse event). The Master Project Schedule must therefore be fine-tuned on a frequent, or even daily basis, based upon input from and communication between Project Managers, Resource Managers and Program Leaders.

Adjustments to the Master Project Schedule are necessary in order to maintain a flow of resources that is commensurate with the hierarchy of projects that is determined by Program Leaders, the SRO and/or the IT Program Board. In the absence of frequent and objective revisions to the Master Project Schedule, project managers could be

penalized for poor outcomes, such as not meeting the triple constraints that are associated with their individual projects due to resource diversions that may be beyond their control. This condition would, understandably, incentivize project managers to compete with one-another and put the self-interest of completing their individual projects within the triple constraint ahead of delivering benefits to the containing organization that enable achievement of desired strategic outcomes. Therefore, frequent and objective revisions to the Master Project Schedule would also serve the purpose of aligning Project Manager incentives with the completion of the containing organization's strategic objectives.

Within the UTIL IT organization, responsibility for approval of the Rough Cut Capacity Plan will reside with the Program Leader. A specific Program Team member would be designated to prepare and update the Rough Cut Capacity Plan on a frequent basis, at an interval determined by the Program Leader. In order for this process to be effective, the UTIL organization will need to determine the appropriate delegation of authority to Program Leaders so that they have some ability to revise project schedules and shift resources (people, equipment, funds, etc.) between the projects within their respective programs.

While the activities in the Program Organization stage largely pertain to planning the tactical activities that are intended to enable delivery of new capabilities and benefits, it is important to note that the completion of such tactical endeavors is subservient to the containing organization's achievement of desired strategic outcomes. This is to say that strict adherence to a Master Project Schedule is not an appropriate measure of program success, but rather the ability to adapt the constituent projects within a program (and hence adaptation of the Master Project Schedule to accommodate such project changes)



to meet the containing organization's changing strategic needs is a better indicator of program success.

#### Program Deployment (or Execution)

During the *Program Deployment (or Execution)* stage the individual project managers run the identified projects and the Program Leader has responsibility to monitor progress, assess risks and report on progress.<sup>14, 25</sup> Specific activities during this stage include ensuring both the target business environment is adequately positioned to receive the changes and the benefits and risks are properly managed throughout the program.<sup>25</sup>

#### Positioning the Client to Realize Benefits

Ensuring that the organization is positioned to receive changes that are brought about by a program involves both an implementation plan for an organization to realize the program benefits that are brought about by a project (or group of projects) and assessment activities to verify whether the desired benefits are, in-fact, being realized. Projects are the tactical tool that programs use to deliver new, or enhance existing, products, services and/or capabilities so that an organization may achieve desired strategic outcomes. While the project team will produce an output (such as constructing a building, developing a manufacturing process, etc.), processes are needed to ensure that that the project output is transitioned to an effective operational status within an organization. These activities may involve employee training for the manufacture, sale and servicing of a new product and development of performance measures that will give an indicator of whether the desired strategic outcome is being realized. This performance measurement requirement provides a program team and senior management with the

ability to verify the degree to which a desired benefit is being realized and can help a program team identify the need to add new and/or modify or delete existing program requirements. Based upon the measured performance result, the program team will then know how to proceed with the program—continue with the program as planned, make minor adjustments to the program or change the direction of the program.

In the UTIL organization, responsibility for preparing applicable organizations within a business unit (or across applicable business units) to receive and utilize outputs of individual projects will reside with a Delivery Manager. The role of the Delivery Manager is to act as a liaison between the Program Team and the Business Unit organizations that will be affected by the outputs produced by the Program's portfolio of projects. The Delivery Manager will facilitate implementation and utilization of project outputs by affected Business Unit organizations so that the organization may be best positioned to fully realize the benefits intended by the larger containing organization and developed by the Program.

#### Verifying Delivery and Realization of Expected Benefits

The successful delivery and realization of benefits will be dependent upon five factors. They are:

- The Delivery Manager's comprehension of the client organization's desired state.
- The Delivery Manager understanding the current state of the organization
- Development of a plan to enable the organization to utilize project outputs in a manner that enables realization of desired benefits
- Identification and assessment of risk
- Monitoring continued effectiveness of implementation of project outputs and making revisions and adjustments as needed to ensure realization of desired outcomes

Each of these factors is discussed below.

A Delivery Manager must first understand and comprehend the desired future state that the program is intended to enable for the client and how the outputs from the program's constituent projects are collectively intended to support realization of such benefits. The Delivery Manager should also be able to work effectively with affected business units to ensure that they understand the desired future state and accept the necessity of changes that will result by making project outputs operational within their organization.

The Delivery Manager should be knowledgeable regarding the current state of the client organization. Specifically, he/she should be aware of the current practices, environment, etc. of a client business unit prior to adoption of project outputs and realization of program benefits. This knowledge is a pre-requisite that enables a Delivery Manager to identify gaps between the current and desired future states of the organization. This information can then be used to develop a plan to bring about effective utilization of project outputs within a client business unit and enable the client to realize desired benefits across the organization.

Using knowledge of both the client organization's desired future state and current state, a plan to enable the client to utilize project outputs in a manner that enables realization of desired benefits should be developed. This plan will be comprised of actionable steps that address issues such as organizational changes, employee training, physical moves, decommissioning / commissioning equipment, discontinuance / implementation of processes and procedures, etc. The plan should be reviewed as needed by appropriate internal UTIL organizational resources/subject-matter experts (Legal,

Legislative Compliance, Risk and Issue Management, etc.) and approved by the Program Leader and Senior Responsible Owner.

Risks that may have an effect on the adoption of project outputs should be identified and assessed. Opportunities that may enhance and threats that may jeopardize adoption of project outputs and realization of desired benefits should be identified and assessed with respect to their potential impacts and probabilities of occurrence. This risk assessment process should assess both the tactical implementation of project outputs and whether such outputs, if implemented, are likely to support realization of desired outcomes.

In order to ensure that the outputs of a program's constituent projects are delivering desired benefits that produce intended client outcomes, a process is needed for periodic reviews with business unit clients to assess adoption and effectiveness of project outputs. After the Delivery Manager has implemented the plan to enable an organization to utilize project outputs and "turned-over" all project outputs to a business unit, a periodic review should be conducted to verify whether utilization or implementation of project outputs has yielded the desired benefits and outcomes. Based upon the results of these reviews, revisions to the Program (and the Program's constituent projects) should be made and/or tactical corrective actions should be taken to address identified issues.

#### Program Appraisal and Renewal

The *Program Appraisal and Renewal* stage involves periodic analysis to evaluate how effective programs are in delivering desired outcomes and expected benefits and deciding whether a program should continue. During these reviews, business requirements are studied and adjustments may be made to modify the schedule, budget

and/or scope of existing projects within a program, add/delete projects as necessary and/or reprioritize projects and associated resources. Pellegrinelli<sup>39</sup> has described the program appraisal and renewal stage as having two levels of review. The first review is at a fundamental level where programs are reviewed from a holistic perspective, with reference to the way a business is moving, to determine whether entire programs or the boundaries between programs are still appropriate. The second review is more mechanical and is driven by an organization's budget cycle (usually annual). This review takes place for continuing programs so that funding for new and continued programs can be allocated for the upcoming fiscal year.

In the UTIL IT organization, the Senior Responsible Owner (SRO), who is ultimately responsible for delivering the desired outcomes and expected benefits that were the basis for forming a program, is the process owner for the Program Appraisal activities. The IT Program Board, to whom the SRO periodically presents Program Appraisals, is responsible for making program renewal (or renewal with modifications) and closure decisions.

The Program Appraisal process requires the SRO to evaluate internal and external environments that may affect a program and receive input from the Program Leader, Delivery Manager and Program Team members regarding both completed and planned program work. This process should first involve assessment of the containing organization's internal environment to determine relevance of the program within the context of the organization. The "internal" assessment is intended to assess the degree to which the program is aligned with the IT organization's vision, mission, values and evolving strategic objectives. The objective of the "external" assessment is to identify

potential gaps between the Program's (delivered or planned) benefits and any changes that are external to the client business unit organization that may affect the Program's relevance and ability to achieve the client's strategic objectives. Such changes include, but are not limited to, changes in the: client business unit priorities and strategic objectives, UTIL organization policies, regulatory environment, etc. Input for the internal and external assessments should be based upon regular feedback from IT senior management (for internal assessments) and from client senior managers and executives and organizational resources (Legal, Finance, etc.) that support the program. The SRO's Program appraisal report should summarize the aforementioned assessments of internal and external environments as they pertain to the Program and provide an overall opinion regarding the direction of the Program. The overall opinion statement should detail whether the program is making material progress on achievement of business unit strategic objectives and what, if any, changes in direction the program needs or whether the program is no longer delivering benefits and should be closed.

After evaluating the SRO's conclusions, the IT Program Board will have sufficient information to decide whether the program is still positioned to deliver significant benefits and whether material changes (change in direction, reallocation of projects between programs, etc.) to the program are needed or whether the program should be closed. After this "holistic" review of the program is completed, the IT Program Board may make program budget decisions that will affect program funding for the next budget cycle.

### Program Dissolution

The *Program Dissolution* stage is concerned with benefits realization.<sup>25, 30</sup> The nature of this realization is by formal assessment<sup>25, 30</sup> of the success of a program and the programs relevance with respect to any changes to the strategic focus of an organization.

The decision to close a program will be based on the outcome of the assessment conducted during the Program Appraisal and Renewal stage. A program may be closed because it was “successful”. In this scenario, program closure may occur because the program has delivered its planned benefits, the benefits have been (or are being) fully realized and the program will no longer deliver any additional material benefits.

Conversely, program closure may occur because the program has not been “successful”. An unsuccessful program is one where it is reasonably anticipated that the intended benefits will not be realized and that adaptation of the program will not have a material impact on benefits realization. In the event that an organization’s strategic focus changes, then the rationale for a program’s existence may no longer exist and therefore the program should be closed.<sup>39</sup>

According to Pelligrinelli<sup>39</sup>, when a program is closed the disposition of any unfinished work needs to be addressed, a post-program appraisal should be conducted and the program team needs to be disbanded.

Since program success is based on the delivery of outcomes and the realization of expected benefits (unlike projects which measure success as a function of the delivery of outputs), even successful programs may have some unfinished projects when it is determined that a program should be closed. Therefore, when a program is closed, its

constituent projects should be redeployed to other programs (where any necessary modifications to specifications, scope, schedule and budget would take place) or discontinued as appropriate.<sup>39</sup> After decisions have been made regarding the disposition of each of the closed programs constituent projects, confirmation should be obtained that all projects in the program have been formally closed<sup>25</sup> or that the project teams (and their respective resources) have been reassigned and redeployed to other programs.

The last steps in the program closure process are the conduct of the post-program appraisal and disbanding the program team. The purpose of a post-program appraisal is to assess the performance and benefits generated by a program and learn any lessons about program management which may be of benefit to similar programs<sup>39</sup> or program governance requirements. Effectively, the post-program appraisal is an evaluation of the effectiveness of the program in delivering the expected benefits and strategic outcomes and how efficient the program team was in managing the program. The intended outcome of the appraisal is to positively affect areas that include, but are not necessarily limited to, strategic planning and decision-making at the executive level and program governance processes. After the program appraisal has been completed and any lessons learned have been communicated and program governance requirements have been updated and communicated, the program team should be disbanded and re-assigned.

In the UTIL organization, the IT Program Board will have decision-making authority regarding program renewal and closure decisions. This decision will be based upon information and recommendations that are presented to the IT Program Board by the Program SRO during the Program Appraisal and Renewal stage. In cases where it is decided that a Program should be closed the IT Program Board, in consultation with the



SRO's and/or Program Leaders from the remaining active programs, should determine which constituent projects from the closed program could deliver material benefits and support attainment of desired strategic outcomes in new or existing programs. Where appropriate, such projects should be redeployed to the appropriate program and, where necessary, the existing Programs should be redefined and their Program Briefs updated. For projects that are not redeployed to new or existing programs, the IT Strategy & Architecture and IT Operations Directors should be consulted to determine whether the intended project outputs from such remaining projects will still provide material benefits as stand-alone projects within the practice areas in their respective organizations. The stand-alone projects that are deemed to have material value, and their associated project staff, should be reassigned to the appropriate practice area manager in IT Strategy & Architecture or IT Operations for the duration of the project. If there are any remaining projects that have not been redeployed to other programs or reassigned to another IT practice area, then such projects should be closed/discontinued and their resources returned to the appropriate managers within the IT Projects, Portfolios & Programs practice area.

After the decision has been made to close a Program, a Post-Program appraisal should be conducted by the Program Leader, with input from the SRO, Delivery Manager, Program Team and any appropriate internal UTIL organizational resources/subject-matter experts that provided material support to the program. The appraisal should assess the Program's effectiveness in choosing, developing and delivering relevant benefits and the effect that such benefits had on the achievement of

desired strategic outcomes and involve a review of the tactical day-to-day management and oversight processes that supported management of the Program.

In order to assess how effective the Program was in choosing, developing and delivering relevant benefits, a comparison should be made between the business unit client organization's desired strategic outcomes and the extent to which such outcomes were achieved. While such a review is relatively subjective, this analysis may provide an organization with initial guidance regarding whether a Program pursued the "right" benefits. In the event that a desired strategic outcome was reasonably achieved, it can be concluded that the Program was effective in choosing, developing and delivering the "right" benefit(s). In cases where a desired strategic outcome was not achieved to the extent that was originally intended, the Program appraisal process should determine whether nonattainment of the strategic objective was a result of choosing inappropriate capabilities and benefits or, if the benefit was appropriate, were there issues in development or implementation of the plan to deliver the benefit(s) to the business unit client(s).

The Program appraisal process should involve verification of the continued realization of benefits by business unit organizations that were the recipients of such benefits. This benefits realization verification can be incorporated into the Delivery Manager's process for monitoring the continued effectiveness of implementation of project outputs [see Program Deployment (or Execution) stage section]. If the benefits realization verification process works as designed, any gaps between desired strategic outcomes and actual outcomes will be identified during the Program Deployment stage when the program can be adapted to close any such gaps.

The results of the Post-Program appraisal should be presented to the IT Program Board by the SRO and the Program Leader. The report to the IT Program Board should involve any recommendations for changes to Program Management processes and process infrastructure documents (templates, procedures, etc.). Such changes should be delegated to appropriate Program Team members. Upon completion of such changes, the Program Team should be disbanded and the Program should be officially closed.

Throughout all of the program stages it is important that Program Leaders and, as necessary, Program SRO's, remain in frequent communication with IT Business Partners, business unit client managers and Project Sponsors. Communication with and cooperation from these stakeholders is necessary in order to facilitate program success. This communication is important because, over the course of a program, Program Leaders will inevitably make, or at least influence, decisions that will alter the scope, schedule, cost, prioritization and resources allocated to projects or could involve cancellation of certain projects. Such decisions can be a source of friction between the competing interests of these stakeholders and the Program organization. It is therefore important for the Program Leader to be adept at negotiation and have strong stakeholder management skills.

## CHAPTER 6

### PROGRAM MANAGEMENT ACTIVITIES

According to Lycett et. al.<sup>25</sup>, program management activities focus around (a) planning, [control] and resource management, (b) monitoring and control, (c) configuration management and change control, (d) risk and issue management, (e) benefits management and (f) stakeholder management. Throughout the life of a Program, a Program Team's efforts will be centered around these activities. This chapter will describe each of these activities.

#### Program Planning Control and Resource Management

*Program Planning Control and Resource Management* involves the development of both a "Program Plan" that forms a complete picture of how the program is going to work and processes for monitoring tranches (groups of projects, activities or workstreams) and individual projects to ensure that their outputs will appropriately support the achievement of desired outcomes and the realization of a programs' expected benefits. A key element of successful program planning and control is the coordination of the objectives of program leaders, project managers and resource managers.

Program Planning and Control and project planning and control are similar in nature. The fundamental difference is that program planning and control involves the prioritization of projects and the grouping of projects into tranches linked to the realization of benefits<sup>38</sup> whereas project planning, monitoring and controlling focuses on arranging and ensuring proper completion of individual work breakdown structure elements/tasks that support achievement of project objectives. According to MSP<sup>31</sup>,

prioritization of projects within a program should focus on critical program activities, for example:

- Specific projects, such as procurements, whose outputs are a prerequisite for future projects
- Resource requirements, such as specific skills that may be scarce
- Early benefit realization, such as reduced operational costs, that will help engender continued commitment and enthusiasm for the program

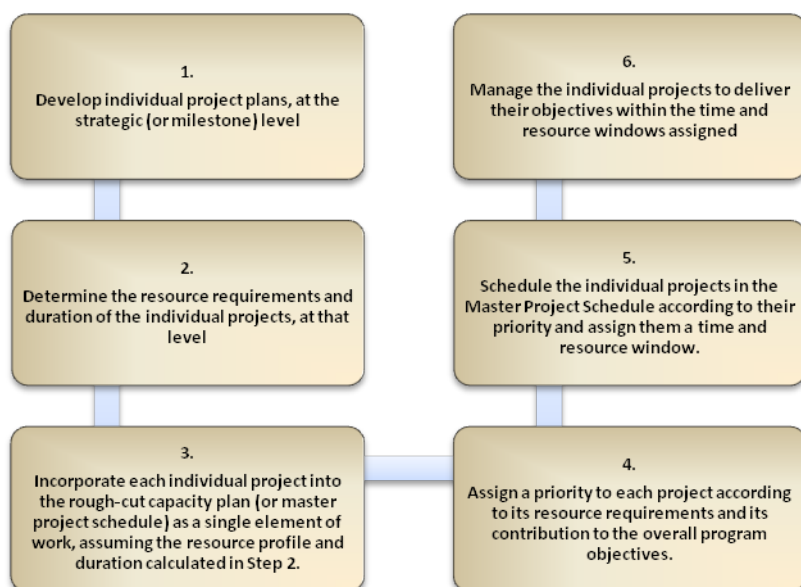
When prioritizing and grouping projects within a program, an analysis process (similar to portfolio management process) should be utilized to first draw attention to critical program activities and then to schedule projects in a manner that most effectively and efficiently delivers the programs desired benefits. The analysis method should consist of both an objective quantitative scoring process that is used by the Program Leader and Program Team to determine relative priority and a qualitative review by the SRO to make adjustments in the project priority list. The quantitative process provides a structured, logical, transparent and consistent approach to project prioritization. The latter qualitative review is intended to ensure alignment between the Program Team and the SRO regarding how programs (and associated projects within such programs) will support strategic initiatives and deliver desired outcomes and the realization of expected benefits.

The use of both quantitative and qualitative project prioritization processes is necessary in order better enable reaching the “right” result. In the absence of a quantitative review, the project prioritization process would be based exclusively on subjective factors that could include heuristics, office politics, etc. If project prioritization is based exclusively on the results of a quantitative review, an organization would blindly follow the results of the quantitative analysis. In the event that the

organization is not measuring or evaluating all (or enough) of the relevant factors, the quantitative analysis would produce a suboptimal project priority list that would divert the organization's resources away from work that could lead to realization of expected benefits and desired outcomes. Therefore, it is important that the Program Team employ an efficient quantitative analysis process that produces a draft project priority list that is presented to the SRO for review and approval and that the SRO play a "check and balance" role to ensure that the project prioritization process is effective.

Turner<sup>51, 53, 54</sup> suggests a process for managing the prioritization of resources across projects in a program, however this method could also be used to aid in evaluating the costs and benefits of each program and therefore be used as a quantitative method for prioritizing programs. The Turner process is detailed below in Figure 7.

Figure 7. Turner<sup>51, 53, 54</sup> Process for Managing the Prioritization of Resources Across Projects in a Program



When planning programs, it is important that all projects be grouped into one of two major categories, routine objectives that are fulfilled through campaigns of existing

operations and development objectives, and that project schedule and resource allocation be appropriately balanced between the two categories. Such “routine objectives” are generally tasks that utilize project resources to enable current operations activities and revenue streams to continue and may include scheduled equipment outages, maintenance and minor upgrades. Development objectives are those projects that directly contribute to the achievement of an organization’s desired strategic outcomes and enable future revenue streams. Therefore resource and schedule forecasts should be balanced so that both routine objectives and development objectives can be delivered within the overall resource constraints of the containing organization.

### Monitoring and Control

Program *Monitoring and Control* involves a review of competitive benchmarking information to determine the extent to which project deliverables are creating a competitive advantage, as far as is warranted and feasible<sup>39</sup>, and making any necessary changes to realign the program with the organization’s evolving strategic needs.

### Evaluating and Adapting the Program

The competitive benchmarking information review is an externally-focused, strategic evaluation that enables a program leader to determine whether projects are “doing the right work”—delivering material benefits that move the containing organization toward achievement of strategic objectives. The outcome of the strategic evaluation will give a Program Leader an idea of whether the containing organization is pursuing a realistic outcome and how effective the program is in making progress toward achieving the desired outcome and the realization of expected benefits. Tracking

progress on individual projects is an internally-focused, tactical review that is used to verify whether projects are “doing the work right”. The follow-up to the strategic evaluation involves making any necessary changes to the program’s constituent projects (modifying or deleting existing projects and/or adding new projects) in order to realign the program so that it delivers benefits that are relevant to the containing organization’s evolving strategic needs.

In the course of program monitoring and controlling activities, the information that is obtained should be used by Program Leaders to evaluate what, if any, adaptation (strategic) of or adjustment (tactical) to the program is necessary. If strategic analysis of the program reveals issues with the ability of the program to deliver desired outcomes and for the containing organization to realize expected benefits, then changes to current and/or future projects will be required. Such changes could involve changes in the scope of existing or planned projects or the addition of new and/or deletion of existing or planned projects and the reprioritization of the portfolio of projects within a program.

After the strategic review and response activities have been completed, a tactical review of the program should be conducted to identify any needed tactical changes to the program. Such tactical changes could include redeploying resources to be consistent with project prioritization, identifying changes in project interdependencies, and any other potential impacts that projects will have on program continuity. The tactical review should also be used to verify whether project triple constraints (schedule, cost and scope) are being met.

In many ways, the program monitoring and control discipline is analogous with the project management discipline, albeit that the reporting structures may differ slightly



and the control steps will of course depend on the context<sup>25</sup> of how individual projects affect the achievement of the program's desired outcome(s).

### Organizational Acceptance of Program Adaptations

Changes to a program that are the result of monitoring and controlling activities may cause issues with morale that could adversely affect the effectiveness of the program. Project managers will inevitably need to be sensitive to changes in schedules, budgets, scopes, resources and/or the cancellation of their project. Such changes can be a source of friction between program leaders and project managers and may additionally lead to dissension between project managers that are competing for resources. Therefore, the process for how program decisions are made and implemented is an important consideration for program leaders.

Gray<sup>12</sup> has advocated, in his "Open Program" model, that individual project managers should be provided with easy access to information about the objectives, progress and deliverables of other projects so that they may be effectively empowered to make sound decisions about their own projects even without explicit direction from the program leaders. The successful implementation of Gray's concept requires a collaborative environment between projects in a program, trust between project managers and program leaders, a clear understanding by and the acceptance and support of desired program outcomes by project managers and performance evaluation criteria where project managers and program leaders share the same (program) goals and objectives. This self-directed, bottom-up approach to program monitoring and controlling could therefore reduce the need for unpopular top-down decisions from program leaders to project managers regarding the addition or cancellation of projects or any changes to

project schedules, budgets, scopes or resources and may also reduce the severity of friction between project managers that are competing for resources.

### Configuration Management and Change Control

In MSP, *Configuration Management and Change Control* utilizes a Program Blueprint as a means of indexing the overall configuration to be managed, the configuration comprising information about the organization, its people, processes, tools and systems.<sup>25, 30</sup> Configuration management is supposed to ensure that the [program] blueprint is always cohesive and consistent and is coupled with a program level change-control process, which is applied to essential sets of information about the program; in particular the program blueprint and program plan.<sup>25</sup>

### Risk and Issue Management

Program *Risk and Issue Management* processes contain essentially the same elements as project risk management processes. Those processes are the definition, identification, qualitative assessment, quantitative analysis, response planning and the monitoring, controlling and review of risks. Program risk management differs from that conducted at the project level in that it addresses strategic issues such as program effectiveness in enhancing the organizations competitive position, the achievement of the program's benefits and/or the effects of changes in the assumptions underlying the program business case.<sup>25, 30, 37</sup> A program risk and issue management process should incorporate three major elements. These elements are

- A consensus within the organization regarding the definition of what constitutes a risk and an issue
- A process for risk assessment and analysis
- Methodologies for responding to risks and issues.

### Defining “Risk” and “Issue”

A successful risk management process must begin by defining the terms “program risk” and “issue”. Ideally, these definitions should be consistent across an entire organization and should be applied in a manner that is consistent with the overall organization’s risk tolerance.

Historically, the generic concept of risk has been associated only with conditions and/or events that could threaten the achievement of one or more objectives. Modern definitions of risk now focus on factors that could have any effect, positive or negative, on program objectives. Although there is no universally accepted definition of the term “risk” a definition that, in strategic terms, recognizes the effects that both threats and opportunities can have on the achievement of program objectives should be adopted. An example of a suitable “risk” definition is found in MSP. The MSP definition of risk is “an uncertain event or set of events which, should it occur, will have an effect on the achievement of objectives. The effects need not all be detrimental. A risk can be either a threat (i.e. an uncertain event that could have a negative impact on [program] objectives or benefits) or an opportunity (i.e. an uncertain event that could have a favorable impact on [program] objectives or benefits)”.

An organizational understanding of the differentiation between “risks” and “issues” is necessary. An “Issue” is defined by MSP as “a relevant event that has happened, was not planned and requires management action. [An issue] could be a problem, query, concern, change request or risk that has occurred.” Therefore, a risk is

threat or an opportunity that *could potentially* occur, whereas an issue is a risk that *has actually* occurred.

### Assessing Risk

Qualitative assessment and Quantitative analysis should be employed to determine the magnitude of risks and associated issues.

From a qualitative analysis perspective, strategic management techniques, such as competitor analysis and the identification of key competitive dimensions, shed light on where an organization must strive to be at the leading edge.<sup>39</sup> This type of information will provide an organization with an understanding regarding the types of external threats and opportunities that may affect realization of desired program outcomes and achievement of strategic objectives. In the context of an IT Program environment, business unit clients should convey competitor analysis information to IT Program Leaders. In addition to addressing internal risks, IT Program Leaders that are provided with competitor analysis information will be able to address risks that are created by sources that are external to the containing organization through adaptation of the program's portfolio of projects in a manner that prevents risks from becoming issues.

Benchmarking can also be used as a tool to aid in quantifying program risk. Benchmarking is a means of establishing an organization's relative position along a number of parameters, such as product performance or service delivery.<sup>39</sup> However, benchmarking results must be taken into context since no two organizations have identical cultures, visions, missions, values and strategic objectives. It is for these reasons that benchmarking should be used as one of a number of tools to aid in the quantification of risk and not the exclusive measure of program risk.

### Risk Response Strategies

The strategies for risk and issue response planning are similar in both program and project management. Hillson<sup>17</sup> has identified specific strategies for responding to project threats and opportunities that can be applied to program management. Hillson's risk response strategies are summarized, in order of preference, as follows in Table 10:

Table 10. Hillson's Risk and Issue Response Strategies<sup>17</sup>

<b>Threat Responses</b>	<b>Generic Strategy</b>	<b>Opportunity Responses</b>
Avoidance	Elimination of uncertainty in order to eliminate threat or ensure occurrence of opportunity	Exploitation
Transference	Allocation of ownership to a third party that may be better enabled to more effectively manage a threat or maximize an opportunity	Sharing
Mitigation	Modification of the degree of risk exposure by taking steps to reduce (for threats) or increase (for opportunities) the probability of occurrence and/or impact of a risk	Enhancement
Acceptance	Inclusion of residual risk in program or project baseline and adopting a reactive response approach without taking explicit actions	Acceptance

The avoidance / exploitation strategy is an interactive approach to risk response, meaning that adaptation of the program prevents threats from becoming issues and uses risk to create opportunities. It is intended to steer the direction of a program to prevent “collisions” with identified threats and to facilitate links with identified opportunities.

In cases where using avoidance / exploitation strategies are not practical, transference / sharing can be a viable option. Transference / sharing is a proactive risk response strategy where threats and opportunities are still present but where both the probability and impact of each is affected. Transference / sharing may involve the purchase of insurance to manage threats or outsourcing projects, jobs or tasks to specialty

contractors, vendors or other service providers that have the expertise and/or equipment to better manage a threat or opportunity in a cost-effective manner.

Mitigation / Enhancement is a reactive risk response strategy in that additional steps or “work-arounds” that may be outside the normal course of the program would be needed to manage threats and/or opportunities.

Risk acceptance is an inactive risk response strategy. When risk is “accepted”, the Program organization is effectively acknowledging that particular threats and/or opportunities will not be managed unless they come to fruition. In cases where the probability and impact of a risk is within an organization’s established risk tolerance, acceptance is an appropriate risk response strategy.

### Benefits Management

The MSP definition of the term “Benefit” is “the measurable improvement resulting from an outcome perceived as an advantage by one or more stakeholders”.<sup>31</sup> For an IT organization, benefits are new capabilities that are delivered by projects within a program that positively impact the achievement of one or more of the containing organization’s strategic goals. Administration of the benefits management process should occur at the IT Program Board level where programs are identified and where the portfolio of IT projects that are contained within programs is approved. In a program environment, *Benefits Management* entails identification, quantification, assignment of owners and tracking of benefits. In this regard, the process for managing benefits is similar, in concept, to risk management.

### Benefit Identification

The expected benefits of a project should be identified in a project's conceptual phase and incorporated in the project's business case. The evaluation of benefits by the IT Program Board should involve classification of each benefit as either quantifiable or non-quantifiable. Quantifiable benefits will have a tangible or measurable outcome (such as x% reduction in IT support costs), whereas the determination of whether a non-quantifiable benefit (such as having applications that are more user-friendly) has been achieved is subjective.

### Benefit Quantification

Performance measurement is necessary in order to assess the realization of desired benefits and attainment of strategic outcomes. In order to measure the success of a program, there needs to be alignment between the Program Leader and the IT Program Board regarding what constitutes current, accurate and relevant measures of business results. These measures should be collected and evaluated by the Program Leader and IT Program Board prior to the delivery of benefits in order to create a baseline that can be used as a basis for comparison against business results that occur after benefits have been delivered. Depending on the nature of the benefits, performance measures should continue to be monitored over a defined period (can be months or even years). This "post-benefits delivery" performance measurement is necessary in order to evaluate how effective the delivered benefits are in continuing to support the achievement of desired strategic outcomes. The results of post-benefits delivery monitoring should be used by the Program Leader as a basis to adapt the program so that on-going and future projects can be formulated (or re-formulated) to deliver the necessary benefits that will better support desired strategic outcomes.

### Assignment of Owners

Program Leaders are ultimately accountable to the IT Program Board for the delivery of all benefits. However, Program Leaders should delegate this responsibility to Project sponsors that have direct control over Project Managers and (tactical) project triple constraints (schedule, cost, scope). The role of the Program Leader is to align the interests of the Project Sponsors and Project Managers with the interests of the program, in delivering benefits that enable attainment of strategic objectives by the containing organization. In order to facilitate effective ownership and attainment of benefits delivery, Program Leaders need to use their authority and influence to provide Project Sponsors and Project Managers with the necessary support when changes are needed to a project's schedule, cost and/or scope. This support could come in the form of re-prioritizing projects, approving the reallocation of financial and/or project resources between projects within a program, revising the program master schedule, etc.

### Benefits Tracking

After expected benefits have been identified during a project's conceptual phase and classified as quantifiable or non-quantifiable, a review should be conducted to verify that the project plan is aligned with the delivery of the Program's expected benefit(s). Progress of benefits realization should be tracked against projects and reported to the IT Program Board to ensure that the Program is making advancement toward delivery of all the Program's expected benefits. This could be accomplished with a benefits register that details the status of each benefit (green, yellow, red) and is updated on a scheduled basis.



The realization of non-quantifiable benefits relies more on intuitive and subjective indicators of shifts in culture and climate.<sup>38</sup>

### Stakeholder Management

*Stakeholder Management*, in the context of program management, involves identification of and a plan to manage *any individual, group or organization that can affect, be affected by, or perceive itself to be affected by, a program*.<sup>31</sup> In a program environment, stakeholders can be either internal employees and groups or external individuals and groups. It is the responsibility of a Program Leader to safeguard projects from pressures that can be created by internal and external stakeholders. Understanding stakeholder's interests in the program, the impact the program will have on them, and then implementing a strategy to address these issues and needs is an essential part of successful program management.<sup>38</sup> Successful stakeholder management involves identifying who will be impacted by a program, how they will be impacted (positively or negatively), the degree of influence (high, medium or low) each stakeholder can exert on a program and the strategies for interacting (engaging or managing) with all (positive and negative) influential stakeholders. The primary goal of a stakeholder management process is to obtain the support and buy-in of influential stakeholders that may have a material effect on the delivery and adoption of benefits and the attainment of desired program outcomes and strategic objectives.

While stakeholder management activities are, on the surface, largely focused on building and maintaining support for programs, it is important to note that programs are only a means for delivering benefits that support achievement of desired strategic outcomes. Therefore programs themselves are subservient to the containing

organization's achievement of desired strategic outcomes. This is to say that stakeholder management activities must first be tied to building and maintaining support first for the containing organization's strategic goals, followed by the programs that are a means by which benefits are delivered that enable achievement of strategic goals.

### Stakeholder Identification and Classification

When identifying who will be impacted by a program, stakeholders should be classified as "internal" or "external" to the containing organization and whether they are individuals or groups. After stakeholders are identified, they should be classified according to the potential impact that they may have on the containing organization's ability to achieve its desired strategic outcomes and the program(s) that are intended to deliver the benefits that are needed to support attainment of strategic goals. Each stakeholder can be initially characterized as belonging to one of four groups that is based upon their degree of influence and whether they will be a supporting or opposing force.

A summary of each stakeholder group is as follows:

- "A" – Influential Supporters – "A" stakeholders are powerful individuals and organizations that would actively utilize their influence or authority to support a program.
- "B" – Influential Opposers – "B" stakeholders are powerful individuals and organizations that would use their influence or authority to oppose a program.
- "C" – Unknowns – "C" stakeholders (or potential stakeholders) whose degree of influence and/or support for a program is unknown.
- "D" – Non-Influential Supporters and Opposers – "D" stakeholders, regardless of whether they support or oppose a program, are individuals or organizations that do not have material direct influence over the success or failure of a program and do not have any material influence over other ("A", "B" or "C") stakeholders.

The relative importance of each stakeholder should be based first on degree of influence, followed by the stakeholder's position – supporter or opposer. A stakeholder

analysis matrix could be utilized to categorize stakeholders based upon the impact that each stakeholder may have on a program. In Figure 8, a Stakeholder Analysis Matrix is presented that classifies and ranks each of the four groups in numerical order of importance.

Figure 8. Stakeholder Analysis Matrix

Degree of Influence over Program	<div>↑</div> <div>High</div> <div>Unknown</div> <div>Low</div>	<div>B1</div> <div>High Influence</div> <div>Strongly Opposes Program</div>	<div>B2</div> <div>High Influence</div> <div>Moderately Opposes Program</div>	<div>C1</div> <div>High Influence</div> <div>Unknown Support of Program</div>	<div>A2</div> <div>High Influence</div> <div>Moderately Supports Program</div>	<div>A1</div> <div>High Influence</div> <div>Supports Program</div>
		<div>B3</div> <div>Moderate Influence</div> <div>Strongly Opposes Program</div>	<div>B4</div> <div>Moderate Influence</div> <div>Moderately Opposes Program</div>	<div>C2</div> <div>Moderate Influence</div> <div>Unknown Support of Program</div>	<div>A4</div> <div>Moderate Influence</div> <div>Moderately Supports Program</div>	<div>A3</div> <div>Moderate Influence</div> <div>Supports Program</div>
		<div>C7</div> <div>Unknown Influence</div> <div>Strongly Opposes Program</div>	<div>C6</div> <div>Unknown Influence</div> <div>Moderately Opposes Program</div>	<div>C5</div> <div>Unknown Influence</div> <div>Unknown Support of Program</div>	<div>C4</div> <div>Unknown Influence</div> <div>Moderately Supports Program</div>	<div>C3</div> <div>Unknown Influence</div> <div>Supports Program</div>
		<div>D5</div> <div>No Influence</div> <div>Strongly Opposes Program</div>	<div>D4</div> <div>No Influence</div> <div>Moderately Opposes Program</div>	<div>D3</div> <div>No Influence</div> <div>Unknown Support of Program</div>	<div>D2</div> <div>No Influence</div> <div>Moderately Supports Program</div>	<div>D1</div> <div>No Influence</div> <div>Supports Program</div>
		<div>→</div> <div>Low</div> <div>Unknown</div> <div>High</div> <div>Degree of Support for Program</div>				

### Managing Stakeholders

A stakeholder management analysis is intended to enable identification of individuals and organizations that can and will use their influence to support or oppose a program and to provide sufficient information to develop a strategy for expanding support for and minimizing opposition to a program. This process should involve developing or enhancing relationships with influential supporters (“A’s”) and ascertaining the degree of influence that the strong supporters have with individuals and

organizations that are strong opposers (“B’s”) and those whose influence and/or support are unknown (“C’s”). The next step is to use the “A” supporters to engage the “C” unknowns, with the intent of refining the group and rank of the “C” unknowns into either “A” supporter or “B” opposer categories. Where possible, influential supporters should be used to convert influential opposers and influential unknowns into supporters of the program. In cases where conversion is not possible, the influence of strong supporters should be used to moderate opposition to the program.

It is during the Program Identification phase, when an IT Business Partner ascertains the business unit client organization’s desired strategic outcomes and identifies the benefits that the IT organization will need to deliver to the client to support such outcomes, that stakeholder management grouping and ranking begins. This initial stakeholder analysis should be an informal activity between the IT Business Partner and the Program’s potential SRO. It is at this point, that influential stakeholders should be approached in order to educate them with respect to the client organization’s strategic objectives and to gain consensus regarding the technical feasibility and cost-effectiveness of the specific benefits that the IT organization will need to deliver to the client. These discussions will also help provide direction regarding whether the delivery of benefits will involve formation of a new program or modification of an existing program. Throughout the remaining life of the program, from the “definition” to “dissolution” phases, the Program Leader and Delivery Manager should regularly conduct stakeholder analyses, in consultation with the SRO and the IT Business Partner. In order to prevent unnecessary and potentially embarrassing threats to the program (and its leadership), the

results of all stakeholder analyses should be kept confidential and limited only to the IT Business Partner, SRO, Program Leader and the Delivery Manager.

## CHAPTER SEVEN

### PROGRAM GOVERNANCE

The role of a Program Governance function is to approve an annual project portfolio that supports achievement of an organization's strategic objectives and to provide a transparent framework for monitoring and controlling programs to ensure that they effectively and efficiently deliver expected benefits and desired outcomes. When a program is initiated, the program governance body will define the criteria for the evaluation, selection and monitoring of projects and programs; opportunity and benefits management; and accountability. Over the life of a program, the governance function should focus its oversight on items such as quality, knowledge transfer and program performance measurement. Where they exist, elements of an organization's existing corporate governance and control infrastructure should be adopted for the program governance function. In addition to program governance considerations related to quality management, knowledge transfer and program performance measurement, this chapter will also discuss the program governance organization and criteria for program governance organizations to consider when selecting Program Leaders.

#### Program Governance Organization

MSP<sup>31</sup> cites the following examples of corporate governance functions that commonly exist in organizations and can be used in program management governance and oversight:

- Operations and Performance
- Contract Mgmt.
- Legal
- Quality Systems
- Human Resource Mgmt.
- Information Mgmt.
- Legislative Compliance
- Risk and Issue Mgmt.
- Customer and Stakeholder Satisfaction
- Sourcing / Procurement
- Finance and Accounting
- Information Technology

The IT Program Board, chaired by the CIO and comprised of senior IT leaders and senior leaders from UTIL client organizations, should be responsible for high-level program oversight and should have decision-making authority regarding the approval, renewal, redefinition and closure of programs. The IT Program Board should also establish a framework and boundaries for Programs that are consistent with corporate governance requirements. In order to better align the IT Program Board members' individual interests with the attainment of the containing organization's strategic goals, IT Program Board members must be given accountability for supporting achievement of the containing organization's strategic goals over project performance accountability. This is to say that incentives/bonuses for the CIO and IT Directors that serve on the IT Program Board need to be more heavily weighted toward the successful delivery of relevant technology benefits that support achievement of the containing organization's strategic goals and weighted less on meeting the triple constraint (schedule, cost and scope) for the containing organization's subset of IT projects. In doing so, the CIO and IT Directors, with input from non-IT Program Board members, will be better positioned to make a positive impact on the achievement of the containing organization's strategic goals. In order to assess the successful delivery of relevant technology benefits, and hence determine the appropriate distribution of at-risk compensation (incentives, bonuses, etc.) for IT Program Board members, the process detailed in chapter 5 that is

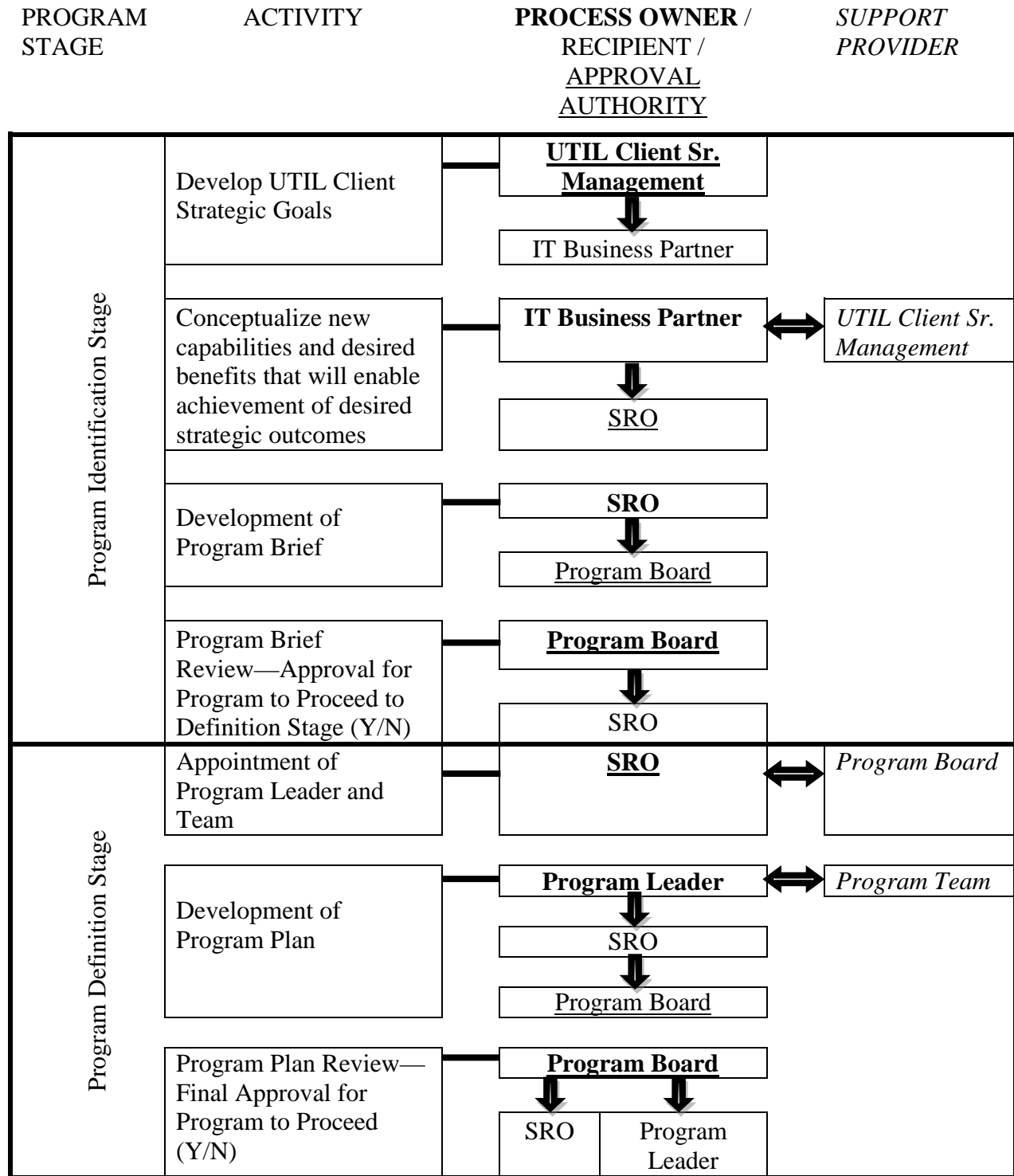
used by Delivery managers to monitor the continued effectiveness of implementation of project outputs and any additional actions that are needed to ensure realization of desired outcomes could be utilized. Prior to authorizing payment of bonuses, independent verification via an audit, should take place to conclusively determine the effective delivery status of at least a sample of benefits.

#### Governance – Program Identification and Definition Stages

Program governance requirements should be designed so that sufficient analysis takes place that enables educated decision-making regarding whether a proposed program should be authorized to proceed (or whether an existing program should be continued or closed). A prerequisite for good decisions involves providing appropriate information and documentation to the IT Program Board. Specifically, the Board should be provided with information that enables its members to determine the extent to which proposed and/or existing programs are aligned with the containing organization's vision, mission and values. Additionally, this information should detail how a program will affect achievement of the containing organization's strategic goals and give sufficient detail so that the Board can assess a program's relative likelihood of success in delivering the benefits that are necessary to attain desired strategic outcomes. Initial program approval and continuance decisions should therefore be a two-step process during the Program Identification and Program Definition stages that involves review of a Program Brief and, if the Program Brief is approved, a Program Plan. Such approval processes are detailed in Figure 9.



Figure 9. Program Governance Activities Associated with Initial Program Approval



Initially, the SRO should provide the Program Board with a Program Brief document during the Program Identification stage that details information regarding the proposed program's vision and end-goal, types of benefits and timeline for delivery, known program risks (opportunities and threats), brief high-level analysis of known stakeholders, business case (estimated costs, timescales, resource needs), candidate projects, and an assessment of the changes created by the proposed program on the current organizations.<sup>31</sup> The review of the Program Brief by the IT Program Board is intended to provide the Board with the necessary high-level details to assess alignment of the proposed program with the organization's vision, mission, values and strategic goals. If a proposed Program Brief is approved, the proposed program should proceed to the Program Definition stage.

In the UTIL IT organization, a Program Leader should be selected when the IT Program Board allows a proposed program to proceed to the Program Definition stage. The Program Leader should be responsible for preparing an associated Program Plan (Note—a detailed discussion of the Program Plan elements may be found in the Program Definition and Planning section of Chapter 4). After review of a program plan by the IT Program Board, the Board may grant or deny approval to proceed with the program. In cases where approval is granted, such approval may be contingent upon revisions to the Program Plan as specified by the IT Program Board. In the event that a Program Plan, and hence the proposed program, is denied, the IT Program Board should identify why the program will not proceed (specific gaps between intended benefits to be delivered by proposed program and achievement of desired strategic outcomes, inadequate funding, etc.).

### Governance – Program Formulation, Organization and Deployment Stages

During the program formulation, organization and deployment stages, the role of the IT Program Board will be to provide periodic appraisals of programs to verify that each program is continuing to be effective in delivering benefits and that the benefits are both being realized by the organization and are providing material support to the attainment of strategic objectives. From a retrospective standpoint, the evaluation should include a review of projects completed, the specific benefits delivered by a Program and (qualitative and quantitative) evidence that the benefits are being realized. From a leading indicator perspective, the IT Program Board should review the plans that the Program is utilizing to verify that they are current, meaning that they are aligned with deliverance of desired future benefits: Examples of such plans and documents include, but are not limited to:

- Program Plan
- Stakeholders Management Plan
- Benefits Realization Plan
- Program organization
- Risk and Issue Management Plan
- Resource Plan
- Quality Management Plan

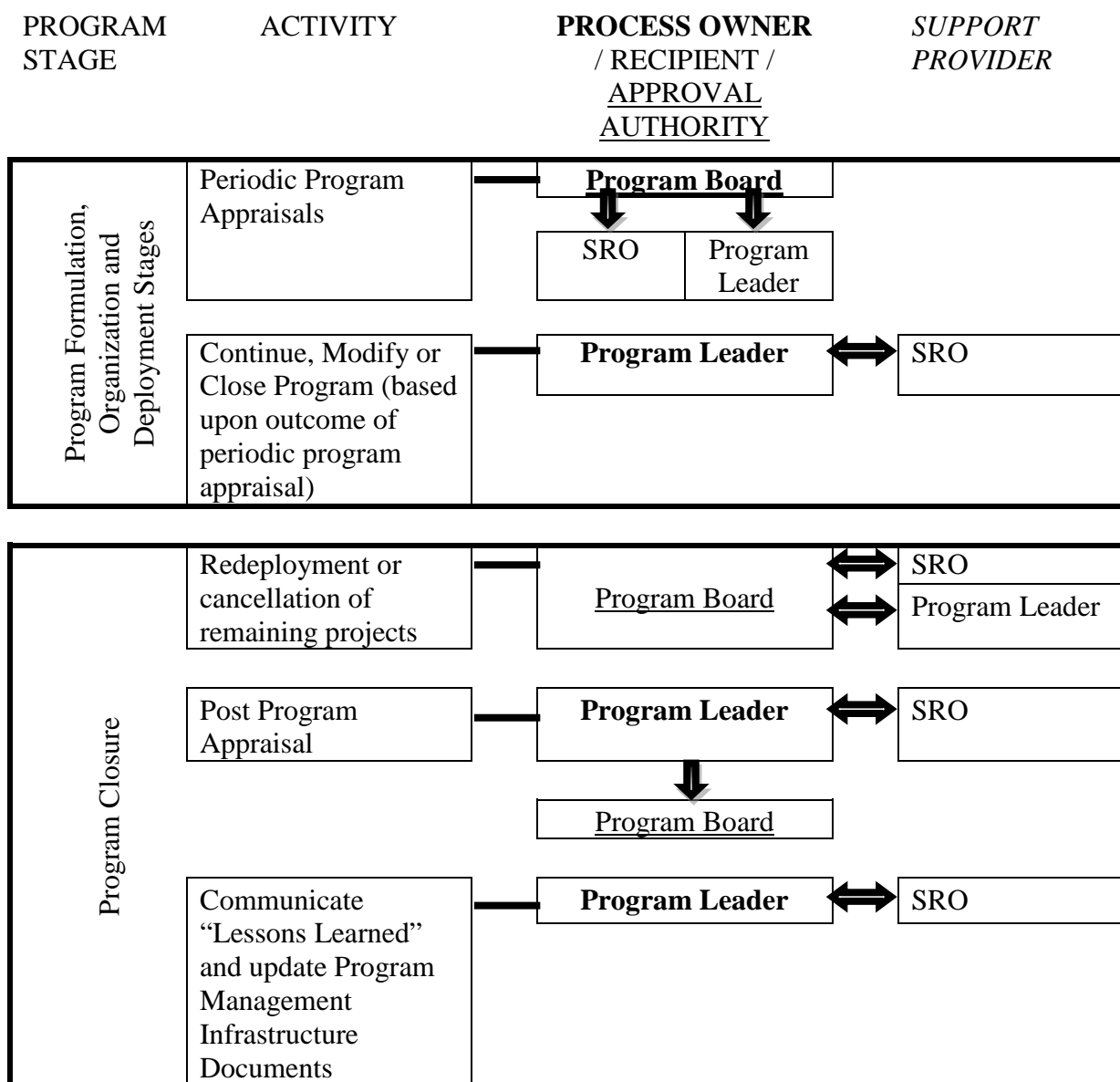
Internal UTIL organizational resources, that are external to a program but provide support and advisory services with respect to conformance with corporate and program governance requirements, should be identified. These organizational resources will be comprised of key program and project personnel, management representatives from affected UTIL business units and, as necessary, representatives from existing shared service functions (Accounting, Law, Procurement, Risk Management, etc.). After organizational resource personnel are identified, specific Program Team members should be appointed to act as liaisons between the program and the subject-matter experts.

The UTIL organizational resources do not have a direct role in Program governance and oversight, but rather they fulfill the role of providing frequent guidance to the Program Leader, Program Team and SRO as it pertains to conformance with corporate and program governance requirements. One of the material guidance roles of the UTIL organizational resources is to aid the Program Team in implementing the Program Plan in the most efficient manner and to provide any necessary support to facilitate a programs' ability to effectively deliver desired benefits and new capabilities.

According to Blomquist and Müller, program and portfolio management should address governance from two perspectives. First, program and portfolio management governance structures should be designed to take into account the interconnectedness of various project objectives in order to maximize accomplishment of combined project outcomes. The second perspective is concerned with the interrelationships among the management requirements of these projects in order to achieve the organization's overall business results.<sup>3</sup> Considering the individual roles of the UTIL organizational resources and their organizational proximity to Program activities, these individuals are ideally placed to alert, advise and enable the Program Team to respond to opportunities and threats associated with the interconnectedness of various projects, project management requirements, organizational requirements and any other internal (and in some cases external) factors that may affect a program.

A summary of the Program Governance activities that take place in the Program Formulation, Organization, Deployment and Closure stages is presented in Figure 10.

Figure 10. Program Governance Activities Associated with the Program Formulation, Organization, Deployment and Closure Stages



#### Governance Process Considerations

In the pursuit of developing program governance requirements, a consistent company-wide approach that can be tailored to the unique nature of each program, and the constituent projects within a program, is necessary. This “graded approach” would

allow for varying levels of analysis and related necessary bureaucracy that are based upon the relative size, risk and priority of programs and projects. By using such a graded approach, small, low risk and low priority projects could be reviewed, approved, monitored and completed with an appropriate level of oversight that does not overburden small projects with unnecessary bureaucracy that increases project costs and lengthens schedules. The use of a graded approach also aids in steering the IT Program Board's attention to the oversight of the Program's larger projects and the program as a whole and aids in preventing the Board from being distracted by the minutia of small projects.

### Quality Management

MSP focuses on three aspects of quality relating to programs: configuration management and change control on documentation, quality assurance and the review of outputs to ensure they are "fit for purpose", and quality of program governance arrangements.<sup>38</sup> The vision of a quality management process is all about quality of product [and/or service], process and employees.<sup>38</sup> Within the context of product, service, process and employees, the objectives of a quality management program should address both the development and deliverance of an organization's products and services. In the product and service development phase, the quality management process should be designed and implemented so that it ensures provision of high quality products and services that are aligned with an organization's strategy and (commercial, legal, brand and technological) risk tolerance. Assuming that the quality management process in the development phase is effective, the quality management process in the product and service deliverance phase should focus on the efficient delivery of products and services

to clients in the shortest possible time and both timely and effective resolution of customer concerns and feedback.

### Knowledge Transfer

Knowledge and information sharing between projects should be a cornerstone of effective program management.<sup>25</sup> There should be both project and program level methods for identifying, evaluating and appropriately memorializing “lessons learned”. Individual lessons learned should be communicated both within and across programs on an on-going basis. Collectively, lessons learned during a program should be incorporated into a holistic review of both an individual program and program management processes and activities as a whole.

Lessons learned should encompass issues that have had positive or negative consequences that significantly deviated from a reasonably expected outcome. An analysis of these issues should be conducted by the Program Team to determine whether such issues are unique to a specific Program and/or Project or whether they are applicable to all Programs and/or Projects. The results of such analyses should be shared with the IT Department’s Projects, Portfolios and Programs function so that they may be disseminated across all applicable programs and projects. Where applicable, revisions to Program and Project plan documents should be made when the experience from an issue can be translated into a valuable process or instruction that can favorably affect the probability or impact of an opportunity or threat.

A “lessons learned” review should also be incorporated into the closure of all programs and projects and during the periodic appraisals of programs and large projects. In addition to providing the program and project governance bodies with an update

regarding issues and associated responses, recommendations should be presented to governance bodies in cases where lessons learned are applicable across all programs and/or projects and would therefore necessitate revision to governance and guidance documents.

### Measuring Program Performance

There are similarities between the processes that are used to measure the progress of project portfolios and programs. Portfolio managers need to have tools that allow the understanding of the meaning of a project's performance when it is interconnected with the performance of other projects and linked with strategic objectives.<sup>44</sup> Since programs are utilized as a means for an organization to facilitate the realization of benefits that are associated with desired strategic outcomes, program performance measures need to focus less on the tactical triple constraint that is associated with individual projects (individual parts of the program) and more on how the projects in a program collectively (the program as a whole) will affect achievement of strategic objectives. Therefore, in theory, measuring the realization of strategic benefits is an effective indicator of program performance.

Strategic benefits can be tangible but are more often intangible. The intangible strategic benefits are difficult to measure because<sup>11, 24, 44</sup>:

- They are not realized immediately.
- They are difficult to quantify.
- Other factors may confound them, rendering the benefits indistinguishable.
- Existing techniques are not appropriate for perceiving their value.
- It is difficult to plan when they may be realized.

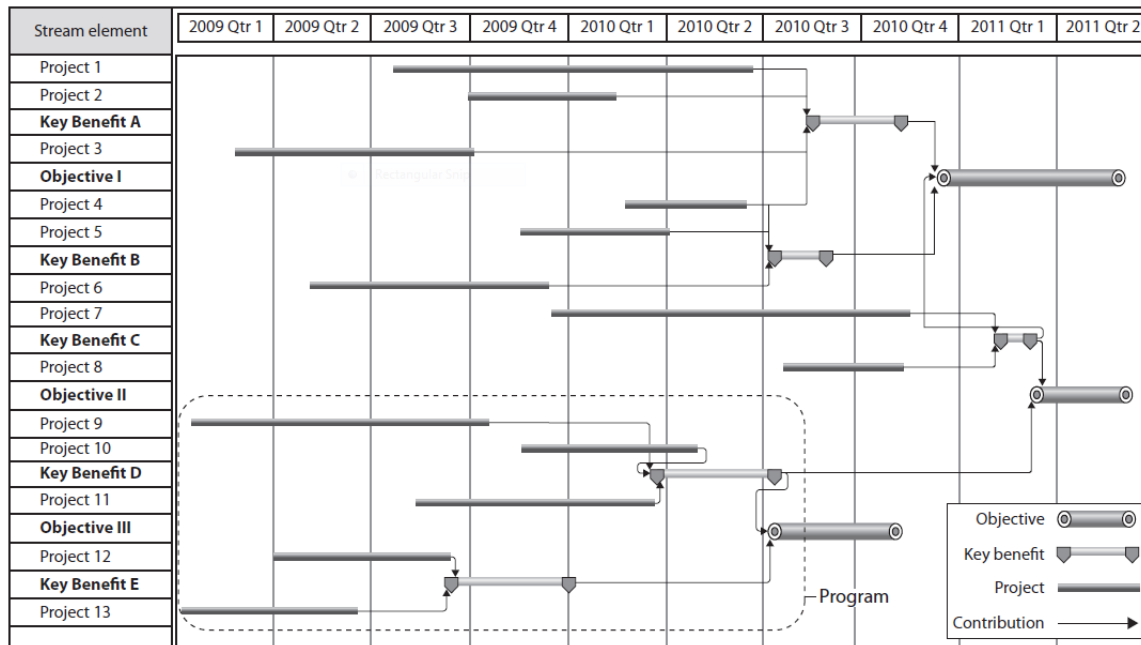


Considering that strategic benefits are often intangible, an organization needs to resist the temptation to measure success in purely quantitative or financial terms. A modified version of a process, devised by Sanchez et. al.<sup>44</sup>, that maps the relationship between organizational objectives to strategic benefits and the projects that deliver benefits, is detailed in Table 11 and Figure 11. This process provides a means to estimate the realization of benefits as a function of both the completion of projects and the projected contribution of such projects to the achievement of such objectives. This process is also used as a contributing factor to prioritize projects so as to maximize the benefits and minimize the timeframe needed to deliver the benefits.

Table 11. Process for Linking Organizational Objectives to Strategic Benefits and the Projects that Deliver Benefits<sup>44</sup>

Setting or Validation of Portfolio Objectives	Alignment of portfolio objectives with containing organization's strategic plan and establishment of specific, measurable, attainable, relevant and time-based goals to achieve portfolio objectives.
Setting or Validation of Key Benefits	Identification of key benefits from program benefits realization plans that are critical for achieving the portfolio objectives and clarifying interrelationships between key benefits to determine which benefits can be combined, eliminated or restated.
Linking Projects, Key Benefits and Objectives	Establishing and/or verifying the relationships between all key benefits (and their associated objectives) and the projects that are intended to deliver such benefits and updating program benefits realization plans as appropriate.
Visualizing the Stream	Consolidating the information from the prior three steps (Setting or Validation of Portfolio Objectives, etc.), a model is built to represent the project-benefit-objective streams on a timeframe (see Figure 10)
Determining the Project Contribution to the Achievement of Portfolio Objectives	Prioritization of projects based upon the relative contribution that projects will have to delivering key benefits (this also requires prioritization of the delivery of key benefits)

Figure 11. Sanchez and Robert Model of a Portfolio Representing the “Project-Benefit-Objective” Streams on a Timeframe<sup>44</sup>



### Selection of a Program Leader

In organizations that have implemented program management it is not unusual that program leaders come from a project management background. While progression from being a project manager to a program leader may appear to be a natural career evolution, the characteristics that make one effective differ significantly between project managers and program managers. Fundamentally, the success of a project manager is measured as a function of completing projects within the triple constraint parameters defined for each individual project. Therefore, rewards for project managers are largely based on their ability to complete projects “efficiently”. Program leaders are (or should be) principally evaluated on their ability to facilitate achievement of desired strategic outcomes, given the containing organizations resource constraints, and effectively make projections regarding a programs future resource requirements.<sup>51</sup>

In general, the techniques used by program leaders tend to be more qualitative and heuristic than conventional project techniques, reflecting the uncertainty and complexity of most program settings.<sup>39</sup> Therefore, their focus is on how “effective” the collective project outputs within their program are in achieving desired strategic outcomes. Given that successful project managers are “efficient (*getting the work done right*)” and successful program leaders are “effective (*getting the right work done*)”, project managers should be more focused on strict planning, management and solving of technical issues, whereas program leaders should be increasingly tolerant of uncertainty, more embracing of change, and more aware of wider business influences.<sup>3, 36</sup> Therefore, program leaders need to be better improvisers than implementers of structural approaches.<sup>3, 40</sup> In a study for a client Pellegrinelli<sup>40</sup> detailed eleven functional areas, and the associated required skills and competencies for each functional area that could be utilized to characterize traits of a potentially successful program leader. This information is detailed in Table 12.

Table 12. Essential Skills and Competencies to Manage Complex Programs Successfully<sup>40</sup>

Area	Essential Skills/Competencies
Understanding Clients Objectives	<ul style="list-style-type: none"> <li>• Understanding Client’s business strategy, and how the project/program is expected to contribute to this</li> <li>• Clarifying how the business objectives and benefits will be measured by the Client</li> <li>• Confirming that the client’s business case is sound</li> <li>• Understanding the context, not just the technical content of the project/program</li> </ul>
Project/Program Organization and Management	<ul style="list-style-type: none"> <li>• Developing a Steering Group which reflects ownership and responsibilities within the project/program</li> <li>• Establishing and operating a mechanism for reviewing the project/program against the business objectives</li> </ul>

Approach and Strategy for the Project/Program	<ul style="list-style-type: none"> <li>• Recognizing the uniqueness of the project/program and developing the appropriate approach/strategy, rather than doing things the way they have always been done</li> <li>• Developing a high-level plan which provides sufficient detail to understand the project/program without getting bogged down in detailed planning</li> <li>• Focusing on the business and people issues and not the technical solution, especially: <ul style="list-style-type: none"> <li>○ Client political situations</li> <li>○ Third parties or partners</li> <li>○ Multiple geographically distributed teams</li> <li>○ Multiple roll-out sites</li> </ul> </li> </ul>
<b>Area</b>	<b>Essential Skills/Competencies</b>
Scope Management	<ul style="list-style-type: none"> <li>• Managing effectively complex situations caused by: <ul style="list-style-type: none"> <li>○ Client business or organizational change</li> <li>○ Indecisive client environment</li> <li>○ Third parties or partners</li> </ul> </li> </ul>
Risk Management	<ul style="list-style-type: none"> <li>• Looking at, and managing effectively, risks at a higher level, such as financials, politics, user support, relationships, new business, new technology</li> <li>• Understanding the Company's exposure on the project/program</li> </ul>
People and Resource Management	<ul style="list-style-type: none"> <li>• Securing Company resources across organizational and national boundaries</li> <li>• Managing the evaluation and procurement of products and/or services in new or known industries</li> <li>• Taking ownership of multiple third part[y] contracts, external solutions and input from the Client organization</li> <li>• Creating a strong team environment among a diverse group of people from different organizations</li> <li>• Communicating with confidence at all levels within the client organization</li> </ul>
Managing the Client Interface	<ul style="list-style-type: none"> <li>• Understanding the power bases within the Client organization and using this knowledge to facilitate a successful project/program</li> <li>• Creating a presence at Board level as fully responsible for, and in control of, the project/program</li> <li>• Being seen as single point of contact for project/program related issues</li> </ul>
Cultural Awareness	<ul style="list-style-type: none"> <li>• Understanding different organizational and national cultures and how these can affect the project/program</li> <li>• Communicating effectively with people in what is a second or third language for them</li> <li>• Developing approaches and structures that take into account any specific issues arising from working in a multi-cultural team</li> </ul>

Commercial Awareness	<ul style="list-style-type: none"> <li>• Understanding the wider commercial activities being pursued with the Client and their potential impact on the project/program</li> <li>• Looking for ways to add more value to the Client and generate more business for the Company</li> <li>• Managing project/program margin and the potential impact of: <ul style="list-style-type: none"> <li>○ Currency fluctuations</li> <li>○ Agreements with third parties</li> <li>○ Risks</li> </ul> </li> </ul>
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An ideal program leader should be cognizant of both the tactical nature of the project management triple constraint and how a program contributes to the realization of an organization's larger portfolio goals. Blomquist and Müller<sup>3</sup> observed that managers with a focus on portfolio management aim for maximizing organizational results as reported in, for example, annual reports and that those managers with a stronger focus on the program management role aim for maximizing the results of their particular program. Managers performing both roles simultaneously aim for a balance between the short-term goals of the program and the long-term goals of the portfolio. Ideally, a program [leader] should have the ability to identify ways in which business opportunities can be fulfilled through projects.<sup>3</sup>

The role of a Program [Leader] should be to plan and monitor projects through their life cycle from identification through approval to delivery.<sup>38</sup> In doing so, the Program [Leader] should be able to appreciate strategic context and drivers, while balancing “business as usual” with bringing about change.<sup>41</sup>

An ideal Program Leader in the UTIL organization would have the ability to make educated decisions to actively adapt and manage a portfolio of projects that delivers

technology benefits that facilitate achievement of strategic objectives and growth of the organization and to be capable getting others to embrace change.

A Program Leader should be capable of thinking in strategic terms and maintain an awareness of tactical and operational issues. In order to assess potential Program Leader candidates (external and internal), their knowledge and understanding of the industry (or industries) in which they have worked should be assessed. Successful candidates should be able to effectively articulate their current or former employer's place relative to their industry and demonstrate both an understanding of how growth within the industry is enabled and the type of technology benefits that an IT organization should be delivering to support (or better support) growth of the organization. The objective of this line of questioning is to evaluate the candidate's relative awareness and understanding of their industry and their ability to use this information to identify and deliver benefits that would be effective in improving their organization's standing and place within the organization's respective industry.

An ideal Program Leader should have well-developed "people skills" and should be an individual that is acceptable to business unit clients. While a Program Leader has decision-making authority as it pertains to the activities within his/her program, an ideal Program Leader should also be cognizant of individual and group stakeholders, that are both within and/or external to his/her containing organization, that can positively or negatively affect a program. Program Leader candidates should therefore be evaluated to determine how they identify and manage stakeholders and resolve conflicts.

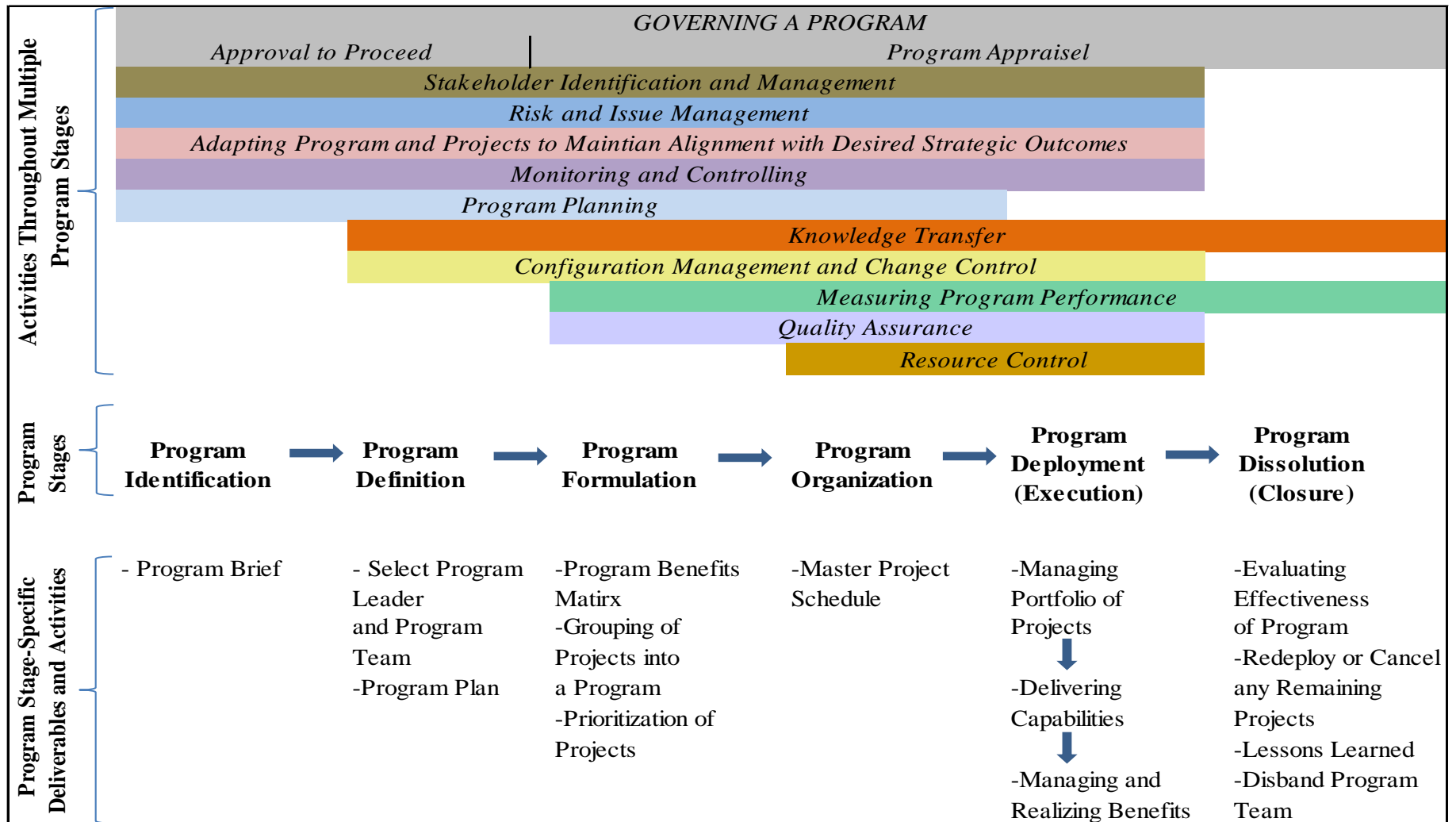
## CHAPTER EIGHT CONCLUSIONS

Program management is a methodology for facilitating the delivery of strategic outcomes through the development of capabilities that enable an organization to obtain expected benefits. It is best suited to be implemented across an entire organization but can be adapted for use in individual parts of an organization. The decision by an organization whether or not to adopt program management should be based upon an understanding and consensus regarding:

- What constitutes a “program” and what “program management” entails (and how program management is related to but different from project and portfolio management)
- How program management can be used to achieve strategic outcomes
- The support needed to develop and implement the management infrastructure and resources that are necessary to effectively implement program management.

If an organization has determined that a program management methodology will be utilized to manage the achievement of strategic objectives, then a program management infrastructure, such as the one proposed in this paper, should be developed. This infrastructure should be designed to support the program lifecycle and activities that are detailed in Figure 12—a hybrid of the Heaslip, Thiry and Lycett, PMI and OGC program lifecycle models.

Figure 12. Program Lifecycle





This program lifecycle and associated program activities should be implemented according to the plan detailed below:

- Obtain formal organizational alignment and support for program management from the UTIL Executive Officer Group.
- If necessary, redesign in whole or in part, the IT Department organizational structure.
- Develop IT-specific Program Management governance and infrastructure documents that memorialize program processes and activities.
- Develop guidelines for the selection and development of key program personnel—Program Leaders, Delivery Managers and Program Team members.
- Develop and implement a Program Management awareness training program.

A detailed description of the activities associated with each of these steps may be found in Appendix “A”.

The implementation of the above action steps should fulfill three objectives. First, program management should be understood and accepted at all necessary levels of the UTIL organization. Next, the IT organization should be positioned to be a strategic partner with its clients. Lastly, IT should be enabled to effectively and efficiently support its business unit clients in their pursuit of achieving strategic goals. Therefore, the first and fifth action steps above are intended to align executive management, IT employees and necessary business unit client contacts regarding the manner and methods that IT is to employ as a strategic partner to its clients. The second step, involving reorganization of the UTIL IT Department to better support implementation of Program management, is inherently controversial. However, the IT organizational structure that is presented in Chapter 4 should be used as a starting point for discussion. The key to developing an effective organization will be to focus on the relationships, regardless of the form that the final IT organizational structure takes, between the six key functions where core program

management activities take place—Business Partners, IT Program Board, Program Management, Portfolio Management/PMO, Resource Management and Delivery Management. The third and fourth steps, development of Program Management Infrastructure and people, involves defining processes for managing programs and ensuring that there is a process for maintaining a sustainable pool of individuals that have the skills and abilities to deliver the right capabilities and benefits that will enable realization of desired strategic outcomes. Specifically, the third step will involve development of program management processes and guidance documents. These documents should define the program lifecycle and activities and oversight functions, in accordance with the program management philosophy that is established by the UTIL organization's executive management. Lastly, ongoing processes are needed to develop Program Leaders so that program management may further evolve as a means to support accomplishment of the UTIL organization's strategic objectives and also to prevent program management from regressing to a tactical exercise, where program leaders largely measure program success based upon meeting the project triple constraint (schedule, cost and scope).

After the UTIL organization has obtained operating experience with program management, periodic holistic reviews of the program management lifecycle and associated processes and activities should take place. These reviews should be used to evaluate whether program management, as a whole, is effective in delivering new and relevant capabilities to the UTIL organization that enable achievement of strategic objectives and outcomes. Additionally, an assessment of the costs associated with program management should be conducted. This assessment should be used to determine

the relative value of program management to the UTIL organization and to verify whether the benefits associated with program management exceed its costs. The results of periodic reviews should be presented to executive management and, where applicable, should detail recommendations for changes to program management guidance (including governance practices) and processes.

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## APPENDIX A - ACTION PLAN FOR IMPLEMENTING PROGRAM

### MANAGEMENT IN THE UTIL IT DEPARTMENT

In this Appendix, a high-level action plan is presented that details the recommended steps for implementing Program Management in the UTIL IT organization. The individual action steps, and the support information that follows each step, are based upon the information that is presented in this paper in Chapters 2 through 7. The action plan is as follows:

- 1. Obtain formal organizational alignment and support for program management from the Executive Officer Group.*

In order to obtain organizational alignment and support for program management, an influential executive sponsor that supports the implementation of program management is needed. The executive sponsor, preferably a member of the Executive Officer Group (EOG), should use his/her influence with other senior executives to reach a consensus that program management is an effective means for the Information Technology organization to better deliver capabilities and desired benefits that will enhance the UTIL organization's ability to achieve its desired strategic objectives. During this consensus-building process, it is important that there be a clear understanding among senior executives regarding the definitions of "program" and "program management" and both how programs differ from, and are related to, projects and project portfolios. If sufficient support exists for the implementation of Program Management, then the output of this process should be a UTIL "Program Management" governance Practice (Note—UTIL Practices are controlled documents that memorialize corporate governance requirements and

require sponsorship by a UTIL EOG member and approval by the EOG as a whole). By memorializing the IT Program Management governance requirements in a UTIL Practice, Program Management will be given visibility throughout the highest levels of management and formal acceptance by the EOG. The UTIL IT Program Management Practice should detail the UTIL organization's program management philosophy and what the organization expects to accomplish using program management as well as definitions of key terms ("Program", "Program Management", "Project", "Project Portfolio", etc), high-level basic requirements for programs and program management and definition of responsibilities for program management and oversight.

*2. If necessary, redesign, in whole or in part, the IT department organizational structure.*

The IT organizational structure should ideally be designed to meet client needs by 1) operating and maintaining existing IT assets, products and services (hardware and applications); 2) designing and engineering IT systems (strategy and architecture); and 3) delivering new IT capabilities and benefits that support achievement of organizational strategic goals and operational efficiency (projects, portfolios and programs). Within the IT organization, it is important to clearly define the relationships between the six key functions (Business Partners, IT Program Board, Program Leaders, Portfolio/PMO function, Resource Management function, and Delivery Management function) where core program management activities occur

and the relationships that Business Partners, Program Leaders and Delivery Managers have with business unit client management.

*3. Develop IT-specific Program Management governance and infrastructure documents that memorialize program processes and activities.*

IT Program governance and infrastructure documents should consist of IT-specific Program Management instruction, process and guidance documents that create the framework for program management and oversight. Such infrastructure documents should include, but not necessarily be limited to, the following:

- Key Definitions – The terms “Program”, “Program Management”, “Project Portfolio Management” and “Project Management” should be defined and the relationship between each, as it pertains to the delivery of new capabilities and benefits that support the achievement of the UTIL organization’s strategic objectives, should be outlined.
- Delegation of Authority Requirements – The limits within which a Program Leader can authorize reallocation of project funding between projects within a Program should be defined. Additionally, guidance regarding project scope change and project cancellation decisions that may be made unilaterally by a Program Leader should be defined.
- Program Lifecycle Stage Guidance – Guidelines for identifying, defining, forming, organizing, deploying, appraising and dissolving programs (including key deliverables and requirements for review of such deliverables)

should be developed. A brief description of the types of guidance that is needed for each Program Lifecycle stage is detailed below:

- a. Program Identification Guidance – 1. Definition of process and responsibility for formal interface between IT and Business unit client via IT Business Partners and client managers and executives to establish direct link between delivery of IT services and support of client strategic objectives. 2. Process to establish alignment between a proposed program and the business unit client organization's vision, mission, values, goals, strategies and other initiatives. 3. Requirement to develop and criteria for developing a Program Brief. 4. Criteria for review of a Program Brief by the IT Program Board to determine validity of capabilities, benefits and desired outcomes that proposed program is intended to deliver and whether the proposed program should receive initial authorization to proceed or whether it's intended capabilities and benefits would be equally or more effectively and efficiently delivered by adaptation of an existing program
- b. Program Definition and Planning Guidance – Criteria for development of a conceptual program plan (proposed project timescales, costs, outputs and dependencies, risks and assumptions, schedule showing the program's tranches, transition plans, monitoring and controlling activities and performance targets) and review of program plan by Program Board to determine if Program should receive final approval to proceed.

- c. Program Formulation Guidance – Criteria for development of a detailed actual program plan of approved projects. The actual program plan should identify project deployment efficiency opportunities across projects that are associated with common deliverables, shared resources, shared information or data and/or shared technology and an initial assessment of overall program and individual project risk.
- d. Program Organization Guidance – Criteria for development of a Master Project Schedule that schedules projects and forecasts project resources based upon 1) the priority of the program that is established by the IT Program Board; and 2) the priority of a project within a program that is assigned by the Program's Leader.
- e. Program Deployment Guidance – Criteria for interfaces between program and business unit clients to ensure that clients are positioned to receive and utilize new capabilities that are produced by the program's constituent projects. Guidance should also be provided regarding processes to monitor and assess realization of material benefits by clients and, if necessary, development and implementation of additional corrective actions to enable realization of benefits.
- f. Program Appraisal and Renewal Guidance – Criteria for effective evaluation of a program so that an educated decision can be made to renew or dissolve the program. Such guidance should include an evaluation of the program's retrospective and projected delivery of benefits, program-specific performance measurement (establishment

of what constitutes an acceptable range of program outcomes), how success is measured, how often progress is measured and differentiation between outcomes that can and cannot be effectively measured. The appraisal and renewal guidance should detail a requirement for a holistic evaluation of a program to determine whether the capabilities that program is projected to deliver are still relevant.

- g. Program Dissolution Guidance – Criteria for addressing disposition of unfinished projects/work (reassignment or closure), criteria for post-program appraisal, lessons learned and disbandment of program team.
- Program Activities Guidance – Guidelines for Program activities that occur throughout various stages of the program management lifecycle. A brief description of the types of guidance that is needed for each Program activity is detailed below:
  - a. Planning, Control and Resource Management guidance – Criteria for coordinating and aligning objectives of Program Leaders, Project Managers and Resource Managers. Process for periodic review and update of Master Project Schedule to coincide with changes to and adaptations of the program, priority of program, priority of projects within program and resource availability.
  - b. Monitoring and control guidance – Guidance for use of competitive benchmarking information to assess if program is pursuing realistic

outcomes, positioned to deliver relevant capabilities and in need of adaptation.

- c. Configuration management and change control guidance – Processes to identify tactical changes to an organization (people, processes, tools and systems) that are created as a result of a program and to organize such changes into the Program Blueprint and Program Plan so that all proposed changes fit cohesively into the intended future state that the program is designed to create. After the Program Blueprint is updated, a process is needed to update the Program Plan to ensure that the necessary actions are incorporated into the Program's portfolio of projects to deliver all changes that have been approved in the Program Blueprint update. Program configuration and change control processes should have integrated quality management processes that involve independent oversight to verify that proposed changes to the program are sufficiently documented in the Program Blueprint and that proposed additions or revisions to future project outputs are aligned with delivery of the capabilities and expected benefits that will produce achievement of desired strategic outcomes.
- d. Risk and issue management guidance – Processes should be developed for identifying, assessing and responding to threats and opportunities that are in accordance with the Corporate UTIL organization's risk tolerance.

- e. Benefits management guidance – Processes for identifying, quantifying, assigning ownership and tracking benefits. Integrated within the benefits management processes should be quality assurance activities that are intended to verify whether the capabilities that a program has delivered have resulted in benefits that are materially contributing to the achievement of desired strategic outcomes.
- f. Stakeholder management Guidance – Criteria for identifying and managing individuals, groups and/or organizations that can affect, be affected or perceive themselves as being affected (positively or negatively) by a program.
- Guidelines for scaled project management procedures – Criteria for tailoring project management procedures, reporting requirements and oversight based upon the size and complexity of the project in order to eliminate unnecessary bureaucracy that may negatively affect project success.
- Communication Plan Guidance – Criteria for development of Program internal (communication between projects within program to prevent omissions/gaps, duplication of effort and conflicts), IT internal (IT Program Board, Business Partners, Program Leaders, Delivery Managers, Resource Managers, Portfolio/PMO and key IT Operations and Strategy & Architecture employees), Organizational Internal (senior executive leaders and key support employees that formulate organizational strategy) and applicable external stakeholders



- Definition of roles, responsibilities and accountabilities for key individuals and organizations that are directly involved in and/or support program management processes – Examples of individuals that are directly involved in program management processes are the Business Partners, SROs, IT Program Board, Program Leaders, Delivery Managers, Program and Project Resource managers and employees and Portfolio/PMO managers and employees.

Examples of organizations that support programs could be client business unit management and executive representatives that interface with IT Program Leaders and teams and non-IT organizations that provide support to programs (Finance and Accounting, Legislative Compliance, Human Resources, Procurement, Risk and Issue Management, etc.).
- Guidelines for Project prioritization – Processes for development of project prioritization within a program, including objective methods for prioritizing resources among competing projects.
- Knowledge Transfer / lessons learned guidance – Processes for collecting, analyzing and disseminating information regarding issues that have had positive or negative consequences for a project or the program as a whole and that have resulted in outcomes that could not be reasonably expected.

Additionally, there should be a process to periodically review and revise project and/or program infrastructure and governance documents, as appropriate, based upon lessons learned.

4. *Develop guidelines for the selection and development of key program personnel – Program Leaders, Delivery Managers and Program Team members*

The successful selection and development key program personnel should begin with selecting individuals that have the appropriate personality traits and are therefore capable of further developing key program management skills. Such individuals should be strategic thinkers that have a high tolerance for uncertainty and ambiguity and the ability to effectively adapt a program to deliver capabilities and benefits that are relevant to changing conditions, while still being cognizant of the tactical challenges that such adaptation may have on a program's constituent projects. Program personnel should also have strong stakeholder management skills and the ability to manage by influence, since they may be accountable for outcomes that are beyond their direct scope of control.

From a technical development perspective, Program personnel should have, or be capable of learning, skills related to management of budgets and finances, risks and both program and employee performance.

5. *Develop and implement a Program Management awareness training program.*

The purpose of a Program Management awareness training program is to increase understanding and support for program management within the ranks of the IT Department and among key business unit client managers and contacts. Specifically, the objective of the training is to convey how Program Management supports achievement of the business unit client's strategic objectives. This training should be divided into two

parts—1.) Program Management Awareness; and 2.) Program Management Lifecycle and Processes.

In the awareness module, the following “technical” topics should be covered: definitions of program and program management, differentiation between program, portfolios and projects and the relationships between each, why program management is a valuable tool to support achievement of strategic objectives and both the prerequisites for success and pitfalls associated with program management implementation.

Additionally, the UTIL IT department’s program management vision and implementation plan should be detailed during program management awareness training. Therefore, information regarding the design of the UTIL IT organization may be incorporated in the training, particularly as it pertains to the key program management roles within the organization. Awareness training should be required for all UTIL IT employees and should be optional for UTIL representatives from IT partner organizations that support conformance with UTIL and IT Program governance and oversight requirements.

Program Management Lifecycle and Process training should be provided for UTIL IT employees that have key roles in Program Management processes. These employees, at a minimum, should include all members of the IT Program Board, IT Business Partners and all employees in the IT Projects, Portfolios & Programs practice area. This training should include a detailed description of the IT Program management lifecycle stages—identification, definition, formulation, organization, deployment, appraisal and dissolution. This training should also detail the specific activities and processes that are required for each stage of a program.